INTERNATIONAL

RECORD OF MEDICINE

AND

GENERAL PRACTICE CLINICS

ORIGINALLY PUBLISHED AS AMERICAN MEDICAL INTELLIGENCER, FOUNDED PHILADELPHIA, 1857

VOL. 166 NO. 3 MARCH 1953

INTERNATIONAL RECORD OF MEDICINE

NEUROENDOCRINOLOGIC BASIS FOR A METABOLIC CONCEPT OF SEVERAL PSYCHIATRIC DISORDERS [In Three Parts]
Arthur M. Sackler, Mortimer D. Sackler, Raymond R. Sackler, Félix Martí Ibáñez, Co Tui, and Johan H. W. van Ophuijsen

LEGAL MEDICINE

MALPRACTICE: MEDICO-LEGAL ASPECTS — *Louis J. Gelber*

PAN AMERICAN MEDICAL WOMAN'S SECTION

ALLERGIC DISEASES OF INFANCY AND CHILDHOOD — *Lloyd S. Nelson and Albert V. Stoesser*

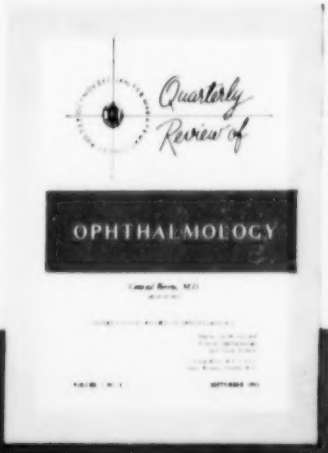
GENERAL PRACTICE CLINICS

Each month a major medical specialty is featured.

in this issue

QUARTERLY REVIEW OF OPHTHALMOLOGY

Conrad Berens, M.D.
Editor-in-chief



Browcrest

now in MOCHA

The frame's the same . . . Continental's handsome, sturdy, well made Browcrest combination. The color is new.

Previously Browcrest came in Tortone only. Now you may get it in the rich and attractive Mocha shade.

In its test showings, Browcrest Mocha scored practically a perfect hit. Stocks are going into independent laboratories all over the country. You can start using it now.

Continental INDIANAPOLIS

International

RECORD OF MEDICINE

A Journal of Advanced Experimental and Clinical Reports

and

GENERAL PRACTICE CLINICS

ORIGINALLY PUBLISHED AS AMERICAN MEDICAL INTELLIGENCER, FOUNDED PHILADELPHIA, 1837

VOL. 166 NO. 3 • WHOLE NUMBER 2841 • MARCH 1953

Published Monthly by

MD PUBLICATIONS, Inc.

910 17th St., N.W., Washington, D.C.

Editorial Office
30 East 60th Street
New York 22, N. Y.

Circulation Offices
910 17th S.T., N.W.
Washington, D. C.
and
30 East 60th Street
New York 22, N. Y.

Advertising Department
30 East 60th Street
New York 22, N. Y.

A cumulative cross reference index is included in the final issue of each volume. Subscription rate: 1 year, $11.00; 3 years, $28.00. Copyright 1953 by MD Publications, Inc. Entered as second class matter at Washington, D. C. under the Act of March 3, 1879. Printed in U. S. A.

CHLOROGIENE IS THE EXCLUSIVE, NEW AND EFFECTIVE CHLOROPHYLL LACTOSE VAGINAL DOUCHE COMBINING THE CONCENTRATED WATER-SOLUBLE DERIVATIVES OF BIOGENIC CHLOROPHYLL "A", LACTOSE AND EXCIPIENTS TO ASSURE LOW SURFACE TENSION FOR MAXIMAL MUCOSAL PENETRATION AND BUFFERED ACID pH FOR PHYSIOLOGIC THERAPEUTIC EFFICACY.

Chlorogiene
DUCHETTES

for vaginal therapy and hygiene

CHLOROPHYLL TO DEODORIZE INSTEAD OF DISGUISE, TO ASSIST CONTROL OF VAGINAL INFECTION AND LEUKORRHEA AS WELL AS TO AID TISSUE HEALING. LACTOSE TO PROMOTE HEALTHY VAGINAL FLORA AND FOSTER LACTIC ACID PRODUCTION BY VAGINAL MUCOSA WITH RESULTANT PHYSIOLOGICAL ACID pH.

CHLOROGIENE IS PRESENTED EXCLUSIVELY TO THE MEDICAL PROFESSION. CLINICAL SAMPLES ARE AVAILABLE ON REQUEST. YOUR PRESCRIPTIONS ARE INVITED.

PF
SINCE 1892

The Purdue Frederick Company

PHARMACEUTICALS FOR THE MEDICAL PROFESSION · NEW YORK 14

EDITORIAL BOARD

FELIX MARTI IBAÑEZ, M. D., *International Editor*

National

FRED L. ADAIR, M.D., *University of Chicago*
HARRY L. ARNOLD, JR., M.D., *Editor, Hawaii Medical Journal, Honolulu, Hawaii*
W. WAYNE BABCOCK, M.D., *Temple University*
HOWARD C. BALLENGER, M.D., *Northwestern University*
CONRAD BERENS, M.D., *The Ophthalmological Foundation*
ALEXANDER W. BLAIN, M.D., *Wayne University*
ALFRED BLALOCK, M.D., *Johns Hopkins University*
W. F. BRAASCH, M.D., *Mayo Clinic*
J. MACKENZIE BROWN, M.D., *University of Southern California*
MORTON S. BRYER, M.D., *The Mount Sinai Hospital*
LEROY A. CALKINS, M.D., *University of Kansas*
BAYARD CARTER, M.D., *Duke University*
RUSSEL L. CECIL, M.D., *Cornell University*
CO TUI, M.D., *Creedmoor Institute*
GEORGE MORRIS COATES, M.D., *University of Pennsylvania*
WILLARD R. COOKE, M.D., *University of Texas*
FREDERICK A. COLLER M. D., *University of Michigan*
WALTER T. DANNREUTHER, M.D., *New York University*
CLYDE L. DEMING, M.D., *Yale University School of Medicine*
R. S. DINSMORE, M.D., *Cleveland Clinic*
HENRY DOLGER, M.D., *New York, N. Y.*
I. E. DRABKIN, PhD., *The College of the City of New York*
DANIEL C. ELKIN, M.D., *Emory University*
LUDWIG A. EMGE, M.D., *Stanford University*
HAROLD K. FABER, M.D., *Stanford University Hospital*
HARRY A. FELDMAN, M.D., *State University of New York*
JOSEPH H. FOBES, M.D., *New York Medical College*
A. STONE FREEDBERG, M.D., *Harvard Medical School, Boston, Mass.*
WILLIS D. GATCH, M.D., *University of Indiana*
LOUIS J. GELBER, M.D., *Rockville Center, L. I., N. Y.*
N. C. GILBERT, M.D., *Northwestern University*
DAVID GROB, M.D., *Johns Hopkins Medical School*
BERNARD J. HANLEY, M.D., *University of Southern California*
FRENCH K. HANSEL, M.D., *Washington University*
CLYDE A. HEATLY, M.D., *University of Rochester*
HENRY F. HELMHOLTZ, M.D., *Mayo Clinic*
FRANK HINMAN, M.D., *University of California*
PAUL H. HOLINGER, M.D., *University of Illinois*
CLARENCE B. INGRAHAM, M.D., *University of Colorado*
CHEVALIER L. JACKSON, M.D., *Temple University*
J. BAY JACOBS, M.D., *Georgetown University*
MARVIN F. JONES, M.D., *New York, N. Y.*
ROBERT W. KEETON, M.D., *University of Illinois*
HARRY H. KERR, M.D., *George Washington University*
WILLIAM J. KERR, M.D., *Blue Lake, California*
I. NEWTON KUGELMASS, M.D., *New York, N. Y.*
CARL H. LENHART, M.D., *Western Reserve University*
THEODORE LIDZ, M.D., *Yale University School of Medicine*
DEAN M. LIERLE, M.D., *University of Iowa*
RALPH H. MAJOR, M.D., *University of Kansas*
IRVINE McQUARRIE, M.D., *University of Minnesota*
CHARLES M. NORRIS, M. D., *Temple University*
ALTON OCHSNER, M.D., *Tulane University*
THOMAS G. ORR, M.D., *University of Kansas*
HENRY BOYLAN ORTON, M.D., *New York Polyclinic*
WINFRED OVERHOLSER, M.D., *George Washington University*
JAMES E. PAULLIN, M.D., *Emory University*
FRANKLIN L. PAYNE, M.D., *University of Pennsylvania*
LOUIS E. PHANEUF, M.D., *Tufts College Med. School*
E. D. PLASS, M.D., *University of Iowa*
TRACY J. PUTNAM, *Beverly Hills, California*
FRED W. RANKIN, M.D., *Lexington, Kentucky*
B. O. RAULSTON, M.D., *University of Southern California*
LYMAN G. RICHARDS, M.D., *Harvard University*
LEONARD G. ROWNTREE, M.D., *Miami, Fla.*
RAYMOND SACKLER, M.D., *New York, N. Y.*

MILTON S. SACKS, M.D., *University of Maryland School of Medicine*

MORRIS SCHAEFFER, M.D., *Director, Communicable Disease Center, Montgomery, Ala.*

LEWIS C. SCHEFFEY, M.D., *Jefferson Medical College*

SIDNEY SCHERLIS, M.D., *University of Maryland School of Medicine*

EDWARD A. SCHUMANN, M.D., *Philadelphia, Pa.*

CYRUS C. STURGIS, M.D., *University of Michigan*

HERBERT THOMS, M.D., *Yale University*

DONALD V. TRUEBLOOD, M.D., *Seattle, Wash.*

NORRIS W. VAUX, M.D., *Jefferson Medical College*

THEODORE E. WALSH, M.D., *Washington University*

JAMES J. WARING, M.D., *University of Colorado*

KARL M. WILSON, M.D., *University of Rochester*

FRED W WITTICH, M.D., *Minneapolis, Minn.*

EDITORIAL BOARD

International

ROMA AMYOT, M.D., *Editor-in-Chief, L'Union Medicale du Canada*

GASTON BACHELARD, M.D., *Directeur de l'Institut d'Histoire des Sciences, La Sorbonne, Paris, France*

PAUL DIEPGEN, M.D., *Director of Medizinhistorischen Institutes der Johannes Gutenberg Univ., Mainz, Germany*

PEDRO LAIN ENTRALGO, M.D., *President of the Universidad de Madrid, Madrid, Spain*

PROF. A. GIGON, *Schweizerische Akademie der Medizinischen, Wissenschaften, Basel, Switzerland*

EDV. GOTFREDSEN, M.D., *Director of the Universitetets Medicinsk-Historiske Museum, Copenhagen, Denmark*

DOUGLAS GUTHRIE, M.D., *Professor of the History of Medicine, University of Edinburgh, Edinburgh, Scotland*

WILLY HARTNER, M.D., *Johann Wolfgang Goethe Universität, Frankfurt a. M., Germany*

E. HINTZCHE, M.D., *Anatomisches Institut, Bern, Switzerland*

JUAN B. LASTRES, M.D., *Profesor de Historia de la Medicina, Universidad de San Marcos, Lima, Peru*

ADOLF MEYER-ABICH, M.D. *Hamburg-Blankenese, Elbchaussee 460, Germany*

ANIBAL RUIZ MORENO, M.D., *Profesor de Historia de la Medicina, Buenos Aires, Argentina*

PROF. RODOLFO PÉREZ DE LOS REYES, *Universidad de La Habana, Cuba*

AUGUSTO PI-SUÑER, M.D., *Instituto de Fisiologia Experimental, Caracas, Venezuela*

ILSE ROSENTHAL-SCHNEIDER, M.D., *The University of Sydney, Sydney, Australia*

KENNETH F. RUSSELL, M.S., F.R.A.C.S., *Associate Professor of Anatomy, The University of Melbourne, Melbourne, Australia*

TH. H. SCHLICHTING, M.D., *Amsterdam, Holland*

PROF. IVOLINO DA VASCONCELLOS, *President, Sociedad Brasileña de Historia da Medicina, Rio de Janeiro, Brazil*

Upjohn

anemia in children...

Zymatinic

Trademark Reg. U. S. Pat. Off. DROPS

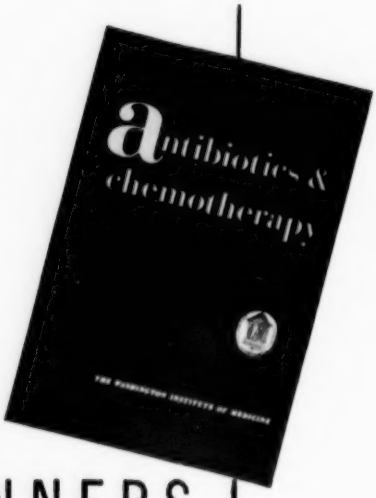
Each cc. contains:

Liver Concentrate	65 milligrams
Ferrous Gluconate	65 milligrams
Riboflavin	1 milligram
Thiamine Hydrochloride	1 milligram
Pyridoxine Hydrochloride	0.5 milligram
Nicotinamide	8 milligrams
Folic Acid	1 milligram
Vitamin B_{12} Activity	1 microgram
Alcohol	1.5%

Available in dropper bottles of 30 and 60 cc.

The Upjohn Company, Kalamazoo, Michigan

6



NOBEL PRIZE WINNERS

E. CHAIN
SIR ALEXANDER FLEMING
SIR HOWARD W. FLOREY
BERNARDO A. HOUSSAY
E. C. KENDALL
SELMAN A. WAKSMAN

AMONG THE 75 DISTINGUISHED MEMBERS ON THE EDITORIAL BOARD OF ANTIBIOTICS AND CHEMOTHERAPY

HENRY WELCH, Editor-in-Chief

Monthly Reports on Research and Clinical Application of Antibiotics, Hormones, Steroids, and other Biochemicals

Subscription Rates: One Year — $11.00 — Three Years — $28.00

Published Monthly by the WASHINGTON INSTITUTE OF MEDICINE

Editorial Offices: 30 East 60th Street, New York 22, N. Y.

INTERNATIONAL RECORD OF MEDICINE

and

GENERAL PRACTICE CLINICS

VOL. 166 NO. 3 • WHOLE NUMBER 2841 • MARCH 1953

INTERNATIONAL RECORD OF MEDICINE

Neuroendocrinologic Basis for a Metabolic Concept of Psychiatric Disorders

Part I. Historic Background to Current Psychiatric Trends 81

Part II. A Body of New Data Relating Certain Psychiatric Disorders to Neuroendocrine Mechanisms 85

Part III. Neuroendocrine Formulations of Pathogenesis Pointing New Psychiatric Perspectives 88

Arthur M. Sackler, Mortimer D. Sackler, Raymond R. Sackler, Félix Martí Ibáñez, Co Tui, and Johan H. W. van Ophuijsen

Legal Medicine

Malpractice: Medico-Legal Aspects 91

Louis J. Gelber

Medical Woman's Section

Allergic Diseases of Infancy and Childhood 95

Lloyd S. Nelson and Albert V. Stoesser

GENERAL PRACTICE CLINICS

Abstracts

Eczematous Dermatitis of the Hands Due to Food Allergy 100

Carbon Dioxide Inhalation Therapy of Neuroses 101

Book Reviews

Biological Antagonism. The Theory of Biological Relativity 102

Body, Mind, and Sugar 102

The Living Body. A Text in Human Physiology 102

Through The Menstrual Years of Life-
THE frequency with which the menstrual life of so many women is marred by functional aberrations that pass the borderline of physiologic limits, emphasizes the importance of an effective uterine tonic and regulator in the practicing physician's armamentarium.
In ERGOAPIOL (Smith) with SAVIN the action of all the alkaloids of ergot (prepared by hydro-alcoholic extraction) is synergistically enhanced by the presence of apiol and oil of savin. Its sustained tonic action on the uterus provides welcome relief by helping to induce local hyperemia, stimulating smooth, rhythmic uterine contractions and serving as a potent hemostatic agent to control excessive bleeding.
May we send you a copy of the booklet "Menstrual Disorders", available with our compliments to physicians on request.
MARTIN H. SMITH COMPANY
150 LAFAYETTE STREET, NEW YORK 13, N. Y.
INDICATIONS
Amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia and in obstetrics.
ERGOAPIOL (SMITH) with SAVIN
THE PREFERRED UTERINE TONIC
DOSAGE
1-3 cap. 3-4 times daily.
SUPPLIED
In ethical pkgs. of 20 cap.

Quarterly Review of **OPHTHALMOLOGY**

Incorporating the International Record of Ophthalmology

OPHTHALMOLOGY ABSTRACTS

Skin Manifestations of Intrinsic Allergies 107

Optics, Physiology and Psychology of Vision

A Comparison of Vision Screening Tests with Clinical Examination Results 108
The Objective Determination of Visual Acuity on the Basis of the Optico-Kinetic Nystagmus 109
The Common Sense Horopter 109
The Relationship Between Geometrical Perspective and Stereo Cues 110
Interpretation of Illumination Data 110
Visual Functions as Indices of Physiological Changes in the Acid-Base Balance of the Blood 111
Magnifying Effects of Spectacle Lenses 111

Ocular Movements and Motor Anomalies, Nystagmus, Reading Disability

Clinical Pointers in Strabismus Orthoptics 111
The Effect of Aniseikonia on the Amplitude of Vertical Divergence 112

Anomalies of Refraction and Accommodation, Contact Lenses

The Changes in Refraction Between the Ages of 5 and 14—Theoretical and Practical Considerations 113
Pinhole Contact Lenses 113

Crystalline Lens

Intra-Ocular Acrylic Lenses, a Recent Development in the Surgery of Cataract 114
Surgery of Dislocated Lenses in Children 115
Epithelial Downgrowths in the Anterior Chamber 115

Miscellaneous

On the Pathogenesis of Incontinentia Pigmenti. With Observations on an Associated Eye Disturbance Resembling Retrolental Fibroplasia 116
Enucleation Implant 116

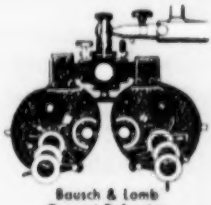
YOUR BEST PROFESSIONAL INVESTMENT

. . . for improved service

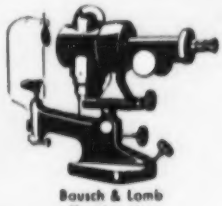
. . . for enhanced prestige

. . . for increased income

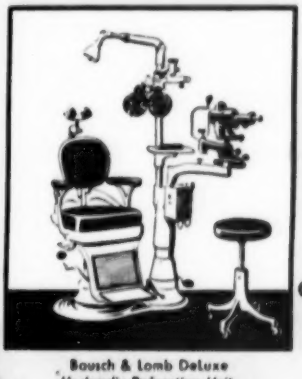
Keep patients relaxed, comfortable, co-operative. Conduct your refractions with efficiency, precision, freedom from distraction. Win patient recognition for your advanced professional procedure. Equip with the Bausch & Lomb Deluxe Refracting Unit—and modern Bausch & Lomb instruments. Your B&L distributor would like to arrange a private demonstration for you.



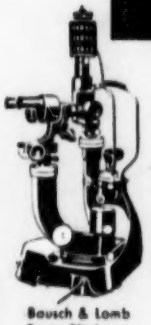
Bausch & Lomb Greens' Refractor



Bausch & Lomb Keratometer



Bausch & Lomb Deluxe Hydraulic Refracting Unit, chair and stool



Bausch & Lomb Poser Slit Lamp

Bausch & Lomb Hand Diagnostic Instruments

Bausch & Lomb Compact Acuity Projector

BAUSCH & LOMB

OPTICAL COMPANY ROCHESTER 2, N.Y.

INTO A NEW CENTURY OF OPTICAL PROGRESS

BAUSCH & LOMB CENTENNIAL

in ARTHRITIS *and allied disorders*

BUTAZOLIDIN

rehabilitates the disabled patient

Through the use of BUTAZOLIDIN, many patients formerly bedridden, are now able to resume an active and useful life.

A totally new, synthetic compound, BUTAZOLIDIN (brand of phenylbutazone) is not related to the steroid hormones and its therapeutic effects are not dependent upon alteration of hormonal balance.

Clinically, BUTAZOLIDIN affords relief of pain, ranging from mild to complete, in approximately 75 per cent of cases. In the majority of instances, BUTAZOLIDIN also produces increased ease and range of motion through diminution of swelling and spasticity.

Characteristically effective in almost all forms of arthritis as well as in other painful musculoskeletal disorders, BUTAZOLIDIN affords the convenience of oral administration and the economy of relatively low cost.

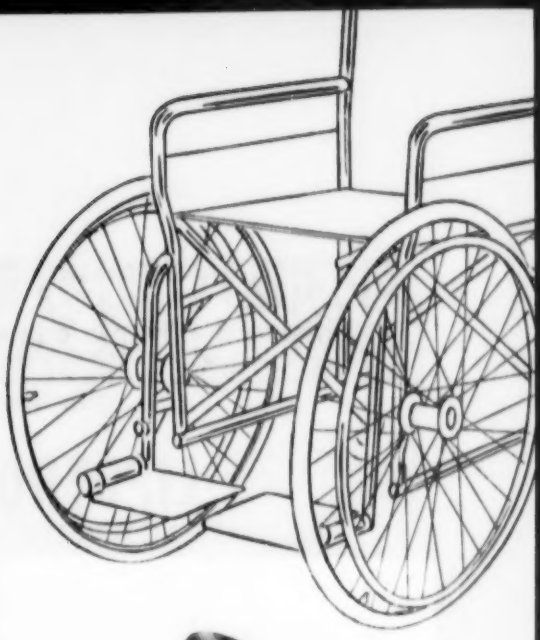
Rheumatoid Arthritis[1,6]
Osteoarthritis[1,3,5]
Ankylosing Spondylitis[1,3,5]
Gout[1,4,5]
Psoriatic Arthritis[1,3,5]
Peritendinitis of the Shoulder[1,2,3,5]
Mixed Arthritis[1,5]
Bursitis[2]
Capsulitis[2]
Calcific Tendinitis[3]
Reflex dystrophy[3]
Menopausal arthralgia[3]
Lumbosacral strain[3]
Malum coxae senilis[3]
Still's disease[5]

Bibliography:
1. Kuzell, W. C., and others: J.A.M.A. *149*:729, 1952.
2. Smith, C. H., and Kunz, H. G.: J. M. Soc. New Jersey *49*:306, 1952.
3. Steinbrocker, O., and others: J.A.M.A. *150*:1087, 1952.
4. Stephens, C. A. L., Jr., and others: J.A.M.A. *150*:1084, 1952.
5. Kuzell, W. C., and Schaffarzick, R. W.: California Med. *77*:319, 1952.
6. Currie, J. P.: Lancet *2*:15, 1952.

GEIGY PHARMACEUTICALS

Geigy

Division of Geigy Company, Inc.
220 Church Street, New York 13, N. Y.
In Canada: Geigy (Canada) Limited, Montreal



BUTAZOLIDIN has been reported to produce favorable results in all of the listed indications.

Treatment of the more transient conditions may be discontinued a few days after symptoms have been completely relieved. In the more chronic disorders BUTAZOLIDIN is usually continued indefinitely at the minimal effective dosage level required to avoid relapse. Frequently, the initial dosage of 600-800 mg. daily may be reduced to 400 mg. daily, or even less, without loss of effect.

In order to secure optimal results with minimal risk of side reactions physicians are urged to send for the brochure, "Essential Clinical Data on BUTAZOLIDIN," and other informative literature.

BUTAZOLIDIN® (brand of phenylbutazone) is available as coated tablets of 200 mg. and 100 mg.

"where the liver is damaged

administration of

LIPOTROPICS

is indicated"[1]

IN GERIATRIC PATIENTS

"There is no doubt that many persons, especially those of advanced age, have functional and structural hepatic alterations. Many times the hepatic deficiency is but slightly apparent or nonapparent...."[1]

IN OBESE PATIENTS

"The present study indicates the uniform presence of liver damage in human obesity as manifested by liver function tests and biopsies."[2]

Lipotropic therapy combats fatty infiltration of the liver and helps restore normal hepatic function.

LAKESIDE LIPOTROPICS ...three forms for optimal dosage and individualized therapy

1. Pollak, O. J.: Delaware State M. J. 24:157, 1952.
2. Zelman, S.: Arch. Int. Med. 90:141, 1952.

For massive dosage; highly palatable, sugar-free vehicle.

LIPOLIQUID

Each tablespoonful (15 cc.) contains

Choline* (equivalent to 9.15 Gm. of choline dihydrogen citrate)	3.75 Gm.
Vitamin B_{12} U.S.P.	4.20 mcg.
Inositol	75.00 mg.

*As tricholine citrate.

Pint bottles.

Dosage: 1 to 2 tablespoonfuls daily for adults.

High dosage capsule

LIPOCAPS*

Each orange capsule contains

Choline bitartrate	450 mg.
dl-Methionine	150 mg.
Inositol	100 mg.

Bottles of 100.

Dosage: One capsule three times daily.

For moderate dosage and supplementation

LIPOTROPIC CAPSULES

(LAKESIDE)

Each pink capsule contains

Choline dihydrogen citrate	200 mg.
dl-Methionine	100 mg.
Inositol	100 mg.

Bottles of 100.

Dosage: 1 or 2 capsules three times daily.

Lakeside Laboratories, INC., MILWAUKEE 1, WISCONSIN

International

RECORD OF MEDICINE

VOL. 166 NO. 3 • WHOLE NUMBER 2841 • MARCH 1953

Neuroendocrinologic Basis for a Metabolic Concept of Several Psychiatric Disorders

PART I
HISTORIC BACKGROUND TO CURRENT PSYCHIATRIC TRENDS

Félix Martí Ibáñez, M.D., Arthur M. Sackler, M.D., Mortimer D. Sackler, M.D., Raymond R. Sackler, M.D., Co Tui, M.D., Johan H. W. van Ophuijsen, M.D., F.A.P.A.†

THE VAN OPHUIJSEN CENTER

THE CREEDMOOR INSTITUTE FOR PSYCHOBIOLOGIC STUDIES

THE CREEDMOOR STATE HOSPITAL RESEARCH STAFF

The dawn of the twentieth century illuminated two independent approaches to psychiatric disorders—the physiologic and the psychologic. It is indeed fitting that its symbolic midpoint mark their integration. Current developments give assurance that, before the sun sets over the end of this historic century, a truly modern psychiatry rooted in metabolic orientation will have fused its humanity with the new, revolutionary concepts of chemistry and physics.

THE XIX CENTURY

In psychiatry, the nineteenth century witnessed the "first navigation" of which Plato spoke. Up to Boerhaave's day there had existed a doctrine of psychopathologic alteration, which was founded on the Hippocratic-Galenic concept of human "nature." French psychiatrists, Pinel, Esquirol, Georget and others, in the first half of the XIX century, established a nosology parallel to that of clinical pathology, describing psychopathologic entities which were comparable to chapters of pathology previous

---

* Presented at First World Congress of Psychiatry, Paris, September, 1950.

† Deceased.

to Sydenham. German psychiatry romantically recreated the medicine of Paracelsus through Reil, Neinroth and Gross.

Then, as that century came to a close, a number of significant events foreshadowed the development of organo-physiologic and the psychologic approaches to psychiatry.

Kraepelin, who in 1896 had helped systematize psychiatry, giving it a certain pseudo-classic perfection by creating with Kahlbaum the "descriptive types" fundamental to our current classifications, tended toward a metabolic orientation pointing to an integration between the somatologic and psychologic in the latter editions of his "Lehrbuch."

In 1899, at the International Congress of Medicine held in Paris, after Korsakov finished reading his historic paper, *A Form of Mental Disease Combined with Degenerative Polyneuritis*, Prof. Benedict said, "We thank Dr. Korsakov for his interesting work. He has confirmed to the maximum extent the theory that all psychopathology will be reduced to lesions of the brain and of the nervous tissue."

In the 1890's, Freud began his epochal efforts. As the experience of the great master of human psychology matured, he indicated his desire for a physiologic orientation even as the brilliant physiologist, Pavlov, in his later years recognized that his physiologic approach to psychologic and somatologic phenomena required integration into the clinical aspects of psychiatry. Subsequently, a division appeared between the followers of somatologic psychiatry, i.e., Griesinger, Meynert, Nissl, Alzheimer, Bonhoefer, and others who were looking for the cause of mental disease in an encephalic lesion, and the disciples of Janet, Freud, Bleuler and Jasper, who made their contributions in the psychologic aspects of psychiatry.

PSYCHIATRY IN THE EARLY XX CENTURY

In the first decade of our century monumental changes took place in man's philosophic conception of the structure of the universe which, in turn, led to a crisis in our idea of man. New psychiatric ideas have their historical roots in the general scientific knowledge of our day. The fourteen year interval between 1900 and 1914, which marked the beginning of World War I, was decisive in the evolution of psychiatric thought. These years were revolutionary and transcendental for European culture. The following simple enumeration of men comprises one of the most electrifying pages in all the history of scientific thought.

Planck described his theory in 1900, the same year that Vries, Correns, and Tscherman rediscovered Mendelism, re-explaining heredity by quantum jumps of the genes. In 1904 Pavlov won the Nobel Prize. In 1905 Einstein gave to the world his Theory of Relativity in a short article, "*Zur Elektrodynamic Bewegter Koerper*," published in the *Annalen der Physik*. In the same year Freud published his *Drei Abhandlungen zur Sexual Theorie*. Two years later, in 1907, Jung edited the *Ueber die Psychologie der Dementia Praecox*, and Adler his *Studien ueber Minderwertigkeit von Organen*. In 1909 two great biologic works appeared: *Umwelt und Innerwelt der Tiere* by von Uexkull, and *Philosophie des Organischen* by Driesch; and in the same year Von Planck published his *Ueber das Prinzip der Realitaet*. One year later, Dilthey's *Weltanschauungslehre* appeared. In 1913 Scheler's *Ethik* saw the light, and Jasper wrote *Allgemeine Psycho-*

pathologie under the influence of Dilthey. In 1914 Ortega y Gasset published his *Meditaciones*, and Eddington his *Stellar Movements and the Structure of the Universe*. The following year Einstein finally exposed his theory of relativity, *Zur Allgemeinen Relativitats Theorie*.

What has happened as a result of these portentous years? The complex, but too rigid structure of classical science has come tumbling down; we find modern science speaking a completely different language. The practical difference between Newton's theory of gravitation and that of Einstein is minimal, but the theoretical difference is tremendous. We consider the universe a tri-dimensional sphere of finite diameter and space a curved line. Matter has disappeared and we speak only of energy and form. All this is revolutionary not merely for semantics but for psychiatric concepts as well. Perhaps the greatest and most unsurpassed turns in "psychiatric navigation" are due to the genius of Pavlov and Freud. Pavlov investigated the functions of the high cerebral centers using his method of conditioned reflexes as well as his concept of "internal inhibition" which has been applied to psychiatry. Pavlov also grouped together the functional levels of the nervous system, attributing certain psychiatric disorders to interruptions in the functioning of the high centers, cortical levels which would then leave subcortical centers and nervous levels free to function.

In that manner he incorporated into psychiatry the integration of the nervous centers established by Jackson and Sherrington, demonstrating that integration of the physical-chemical levels creates a unified organic machine, as is likewise being done in the psychic sphere. Mental diseases have since been approached as processes of disintegration, repression, and dissolution of the nervous system.

The other great contribution to modern psychiatry was made, of course, by Freud. If Freud's teacher, Charcot, came from the anatomopathologic school of the nineteenth century and was raised on the temperate empiricism of the hospital bed which trained him to establish pathologic entities of "clinical formations" of a disease as "anatomy in motion," Freud himself came from the school of physiopathology, and mental disease did not, in the beginning, have for him any special and visible texture. But in his later years, Freud stated many times that the substratum of mental diseases was the biochemical alterations of nervous tissue which sometimes could not be shown under the microscope but would ultimately be traced through the biochemists' fine analysis. Before Freud, psychiatry used clinical medicine as its model. After Freud, it was psychiatry which opened new paths to clinical medicine.

The genius of such men as Kraepelin, Freud and Pavlov had a common psychiatric denominator— they sensed that psychic and physiologic phenomena were biologically integrated and that the vast array of psychiatric systems, doctrines, and ideas must ultimately comprehend and convey this fundamental reality. More than forty years ago Ramón y Cajal established the histologic basis of this concept when he spoke of a certain "specific energy" in the neurone that was the key to its trophic unity and a part of a general organic energy; and so did Monakov when he established the fact that the action of the nervous system is not the sum of the activities of its different components but a primary unity which later differentiates and gives birth to the various physiologic activities of its components.

The mission of basic science is to find answers to general problems, but psychiatry, like medicine, is interested in solving specific questions. Classic biology has been revised because it was based on the conceptions of a system of physics that was antiquated. Psychiatry also needs such a revision, and perhaps its final goal will be attained in the years ahead when we finally can comprehend and control intracellular physical, chemical, and energetic changes. For even as fifty years ago psychiatry was concentrating upon neurologic alterations, today it is beginning to give greater attention to its endocrine aspects.

The admission of the identity of matter and energy as different aspects of the same reality in the universe must lead to the admission that such identity is also a biologic truth inside the human body.

Thus, it is that psychiatry at the mid-century point is at the threshold to a new conception of its major disorders. The study of laws governing the physio-chemical processes which regulate metabolism and the interference with its biochemical substratum may be the next step in the therapy of mental disease. The empiric psychotherapy and attempts at symptomatic pharmacologic therapy of the nineteenth century psychiatry gave way to the psychodynamic therapy of the first half of the twentieth century. Today a psychodynamic psychiatry is being supplemented by physical and endocrinologic therapies. The biochemical approach that is coming into being will ultimately be based upon a physical-chemical foundation which will revise our knowledge of the laws governing nervous and mental phenomena in the normal person and in the mental patient, and will strive to influence such laws and phenomena. This will not mean relapsing into a purely mechanistic materialistic conception of psychiatry, but rather advancing to the recognition that the human mind is developed over certain nervous structures, in which all our mental phenomena are integrated. The brain is located in space-time and so are our thoughts. Mind influences body through the nervous system and the endocrine glands, and is, in turn, influenced by somatic and environmental alterations through the same systems.

The sciences of modern biology, endocrinology, physics, mathematics and biochemistry, are in a state of change that will affect psychiatry. But the main revolutionary change in our science is its tendency to integrate all the others in a new, broad and eclectic conception. The mid-century is truly giving psychiatry the signal to start afresh that great endeavor which a magnificent Athenian more than two thousand years ago called, "the second navigation."

PART II

A BODY OF NEW DATA RELATING CERTAIN PSYCHIATRIC DISORDERS TO NEUROENDOCRINE MECHANISMS

Raymond R. Sackler, M.D., Mortimer D. Sackler, M.D., Arthur M. Sackler, M.D., Félix Martí Ibáñez, M.D., Co Tui, M.D., and Johan H. W. van Ophuijsen, M.D., F.A.P.A.†

THE VAN OPHUIJSEN CENTER

THE CREEDMOOR INSTITUTE FOR PSYCHOBIOLOGIC STUDIES

THE CREEDMOOR STATE HOSPITAL RESEARCH STAFF

There is no foundation in reality for a dichotomy between the physiologic and psychologic in psychiatry. Integrative interpretation of the totality of psychiatric research data will attest their fundamental biologic unity. Our own experimental findings have led us to a series of formulations which, by relating certain psychiatric disorders to neuro-endocrine mechanisms, (1) stress the interrelation of psychic and somatic factors in these mechanisms, (2) link mediating neuroendocrine changes to psychiatric symptomatology through biochemical effects upon neuronal function and structure, and (3) project both experimental and clinical observations and the resultant formulations into the historical context of biologic developments.[1,2]

The chronology of a series of experiments and observations is presented in brief:

1. The apparent liberation of a blood-borne vasodilating agent following application of an electric shock current in animal experimentation prompted[2]
2. a study which revealed a low, fasting gastric HCl in psychotics,[3] suggesting for most psychotics a predominating neuroendocrine state of either vagal hypotonia or failure or deficiency of acetylcholine, or hormonal dysequilibria characterized by operative histamine deficit and/or its equivalent—an operative excess of histamine-antagonist, more suggestively, operative adrenal cortical excess. These observations indicated
3. the investigation of the effects of ECT on gastric secretion,[4] which revealed marked stimulation—vagal, histaminic or both, and led to
4. the therapeutic administration of histamine in the so-called functional psychoses.[5,6] The benefits recorded with histamine biochemotherapy in hospitalized psychotics (comparable to those attained by ECT, yet without some of the drawbacks of convulsive therapy) raised the consideration that a group of therapies—ECT, insulin coma, and histamine—could have in common at least one biochemical denominator, histamine release, or its equivalent in hormonal effects.

† Deceased.

5. In an extension of these studies to nonhospitalized psychotics and psychoneurotics, a number of critical findings revealed that differences in the severity of disease process, for example, between schizophrenia and the psychoneuroses as a group, and even between hospitalized and nonhospitalized schizophrenics, were reflected in the greater tolerance for histamine in the more severely ill groups. Variations in tolerance were also found roughly related to the progress of patients under therapy and to their day-to-day changing emotional status.[7] These findings suggested

6. A survey of the incidence of allergies and peptic ulcer in hospitalized psychotics[8] which confirmed earlier reports[9–15] of the extremely low incidence of these disorders often referred to as "histamine excess" states. This again highlighted the possible presence in certain psychotics of a histamine antagonist substance in larger amounts.

7. An exploration of the neuroendocrine relationship of the sex steroids (in massive dosages) to psychiatric disorders then defined an important area of their therapeutic effectiveness particularly in schizophrenia of adolescence and early adulthood, with convalescent status attained in 83 per cent of patients up to 26 years of age.[16]

8. Reduction in patients' histamine tolerance during and following sex steroid therapy was interestingly related to similar efforts following administration of thyroid.[8] The gathering implications of these findings are being amplified in

9. studies of the influence of histamine, insulin, ECT, thyroid, and combined sex steroids on such indicators of adrenocortical physiology as eosinophile levels and responsivity, lymphocyte-neutrophil ratio as well as a glucose tolerance:

   a. Resting eosinophile levels show a gradual increase during a course of histamine therapy[17] and a marked increase indicative of reduced adrenal cortical output during combined sex steroid therapy.[18,19] The degree of increase seems to be related to the degree of clinical improvement.[16]

   b. Changes in lymphocyte-neutrophil ratios indicative of reduced adrenocortical activity have also been observed and correlated with clinical improvement.[16]

   c. Impaired carbohydrate metabolism as revealed by glucose tolerance tests is often influenced in the direction of, or changed to, normal during histamine therapy.

   d. Impaired eosinophile response to orally administered glucose, is likewise often corrected with histamine and combined sex steroid therapy.[17]

The biologic implications of these findings are fundamental in suggesting that such psychiatric disorders as schizophrenia may be related to a multiplicity of etiologic and pathogenetic factors, somatic as well as psychologic, factors whose ultimate metabolic expression in the neurone is probably mediated through a number of common or similar neuroendocrine mechanisms.

BIBLIOGRAPHY

1. Sackler, A. M.; Sackler, M. D.; Sackler, R. R., and van Ophuijsen, J. H. W.: The research background of a system of neuroendocrinologic formulations. Part I of physiodynamics and some major metabolic disorders. J. Clin. Psychopath., *2*:1, 1950.

2. Sackler, M. D.; Sackler, R. R.; Sackler, A. M., and van Ophuijsen, J. H. W.: A system of physiodynamics and its application to the neuroendocrinology of psychiatry. Part II of physiodynamics and some major metabolic disorders. J. Clin. Psychopath., *2*:15, 1950.

3. Sackler, A. M.; Sackler, M. D., and Sackler, R. R.: Fasting apparent achlorhydria and hypochlorhydria in psychosis. A preliminary report. J. Nerv. & Ment. Dis. In Press.

4. Sackler, R. R.; Sackler, M. D., and Sackler, A. M.: Electric shock therapy, gastric secretion and histamine. A preliminary study of possible interrelationships. J. Nerv. & Ment. Dis. In Press.

5. Sackler, A. M., Sackler, M. D.; Sackler, R. R., and van Ophuijsen, J. H. W.: Non-convulsive biochemotherapy with histamine. A preliminary report on the treatment of hospitalized schizophrenic, manic-depressive and involutional psychotics. J. Nerv. & Ment. Dis., *110*:149, 1949.

6. Sackler, A. M.; Sackler, M. D.; Sackler, R. R., and van Ophuijsen, J. H. W.: Nonconvulsive biochemotherapy with histamine and electric convulsive therapy. A comparative study on hospitalized psychotics with a control ECT series. J. Nerv. & Ment. Dis., *110*:185, 1949.

7. Sackler, R. R.; Sackler, M. D.; van Ophuijsen, J. H. W.; Co Tui, and Sackler, A. M.: An appraisal of the current status of histamine biochemotherapy in psychiatry and the theoretical significance of its effects. Part II of endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath. *12*:5, Jan-Mar. 1951.

8. Sackler, R. R.; Sackler, M. D.; Sackler, A. M.; Greenberg, D.; van Ophuijsen, J. H. W., and Co Tui: The incidence of peptic ulcer in hospitalized psychotics. To be published.

9. Rud, Finn: The eosinophile count in health and in mental disease. Acta psych. et neurol. (Scand.) Suppl. 40, 1947.

10. Balyeat, J.: Hereditary factors in mental disease. Am. J. M. Sci., *176*:332, 1928.

11. Beauchemin, J. A.: Allergic reactions in mental disease. Am. J. Psychiat., *92*:1191, 1936.

12. Brenton, H.: Discussant in Beauchemin, J. A., *op. cit.*, 1936.

13. MacInnis, K. B.: Allergic symptoms in the psychiatric patient. J. Allergy, *8*:73, 1936.

14. Leavitt, H. C.: Bronchial asthma in functional psychoses. Psychosom. Med. 5:39, 1943.

15. McAllister, R. M., and Hecker, A. O.: Incidence of allergies in psychotic reactions. Am. J. Psychiat., *105*:80, 1949.

16. Sackler, M. D.; Sackler, R. D.; Sackler, A. M., Co Tui, and van Ophuijsen, J. H. W.: Sex steroid therapy in psychiatric disorders. The therapeutic effect of testosterone and estradiol on hospitalized psychotics. Acta Psych. et Neurol. (Scand.) *26*:415, 1951.

17. Sackler, M. D.; Sackler, R. R.; Sackler, A. M., and van Ophuijsen, J. H. W.: Recent biochemotherapeutic developments in psychiatry. Am. J. Psychiat. *108*:669, 1952.

18. Sackler, M. D.; Sackler, R. R.; van Ophuijsen, J. H. W.; Co Tui, and Sackler, A. M.: An appraisal of the current status of steroid biochemotherapy in psychiatry. Part III of endocrinologic orientation to psychiatric disorders, J. Clin. & Exp. Psychopath. *12*:15, Jan.-Mar. 1951.

19. Sackler, A. M.; Sackler, M. D.; Sackler, R. R.; Greenberg, D., van Ophuijsen, J. H. W., and Co Tui: Eosinophile levels in psychotics during combined testosterone-estrogen therapy. Proc. Soc. Exp. Biol. & Med. *76*:226, 1951.

PART III

NEUROENDOCRINE FORMULATIONS OF PATHOGENESIS POINTING NEW PSYCHIATRIC PERSPECTIVES

Arthur M. Sackler, M.D., Raymond R. Sackler, M.D., Mortimer D. Sackler, M.D., Félix Martí Ibáñez, M.D., Co Tui, M.D., and Johan H. W. van Ophuijsen, M.D., F.A.P.A.†

THE VAN OPHUIJSEN CENTER

THE CREEDMOOR INSTITUTE FOR PSYCHOBIOLOGIC STUDIES

THE CREEDMOOR STATE HOSPITAL RESEARCH STAFF

One of the highest functions of science is to make fundamental phenomena more accessible to understanding, to prediction, and to control. One of the highest functions of scientific research is to elaborate data contributing to the formulation of fundamental scientific concepts. One of the highest functions of theoretical formulations in science is to open paths to new, critical data, to a better understanding of these fundamental data and, in turn, to the formulation of more advanced theory. Our research has, in the last five years, yielded a body of clinical and biologic findings which have led us to a number of psychiatric formulations and several biologic reformulations.

Whereas metabolic orientation to psychiatric disorders is obviously inherent in certain of the organic processes as in psychoses with cerebral arteriosclerosis, historically such an orientation in regard to so-called functional processes as schizophrenia has been limited to a number of seemingly casual but critical observations, particularly by Kraepelin, Pavlov and Freud.

According to our formulations,[1,2] a number of pyschiatric disorders are related to specific biochemical changes consequent upon dysequilibria between certain physiologic effects such as those of thyroid, insulin, histamine, and the gonadal hormones, on the one hand; and the antidyne, or counterposing, effects of such substances as the adrenal cortical and medullary hormones on the other. These dysequilibria can be characterized by innumerable, different combinations based on differences in operative concentrations, or the effectiveness, of the many elements in the reaction. The triggering mechanisms may be primarily somatic, as in psychoses associated with gonadal deficit and as in psychoses occurring in post-thyroidectomy; or the mechanisms may be primarily psychogenic, as in the case of the postulated internal conflict of the psychoneurotic. Irrespective of the triggering factors, it is proposed that neuroendocrine mediating elements participate in the resultant symptomatology by producing specific biochemical and, ultimately, in some instances, organic changes in the neurone. In certain psychoses, such as schizophrenia, it is suggested that one of the end results of the hormonal dysequilibria may be an operative excess of adrenal cortical hormone whose protein catabolic effects on neuronal nucleo-protein leads

† Deceased.

to the manifest symptomatology. On the other hand, in the more truly "functional" disorders such as the psychoneuroses, the metabolic dysfunction may be related less to organic changes than to changes in enzyme function, indeed, let us say, by relative adrenal cortical deficiency (ACH-) dysequilibria and comparable to those occurring in certain of the B vitamin deficiencies wherein oxygen carriage is disturbed.

These formulations go beyond a theoretical proposal as to the multiplicity of the somatic as well as psychologic forces involved in the etiology and pathogenesis of certain psychiatric disorders; they go beyond affording a unifying concept enabling us to comprehend the efficacy of diverse therapeutic modalities; they may make possible predictability of certain psychiatric and metabolic phenomena. For example, more than a year ago the production of psychotic manifestations in certain individuals and the clearing of certain psychoneurotic and psychosomatic manifestations in others by cortisone and ACTH were suggested by our theory.[1,2] In regard to both of these possibilities, reports of recent months are of interest.[3–5] Since then, our observations of changes in eosinophile levels and responsivity and lymphocyte/neutrophil ratio raise hopes for the ultimate development of prognostic biologic indices for psychiatry.

At this time, we must record that out of our findings[9–19] has come the conviction that we are today on the threshold of the era of metabolic medicine and metabolic psychiatry. This metabolic era is as full of promise as the concurrently developing atomic era is fraught with dangers. Through the metabolic era psychiatry will come to its fullest understanding of neuronal physiology and its relationship to psychodynamics. Predictability and control will become fundamental to a science of psychiatry in which modern physics, chemistry, and mathematics will be fused into a newer knowledge of the energetics and integration of the nervous system whose bizarre symptomatologic manifestations have fascinated and victimized man from time immemorial.

BIBLIOGRAPHY

1. Sackler, A. M., Sackler, M. D., Sackler, R. R., and van Ophuijsen, J. H. W.: The research background of a system of neuroendocrinologic formulations. Part I of physiodynamics and some major metabolic disorders. J. Clin. Psychopath. 2:1, 1950.

2. Sackler, M. D., Sackler, R. R., Sackler, A. M., and van Ophuijsen, J. H. W.: A system of physiodynamics and its application to the neuroendocrinology of psychiatry. Part II of physiodynamics and some major metabolic disorders. J. Clin. Psychopath., 2:15, 1950.

3. Loeb, R. F.: Statement made before New York Academy of Medicine, Jan., 1950.

4. Mote, J.: Personal communication.

5. Hoch, P.: Statement made before interhospital conference, Department of Mental Hygiene of the State of New York, at Psychiatric Institute, April 1950.

6. Yapalater, A. R., and Rockwell F. V.: Toxic psychosis due to prophenpyridamine (Trimeton). J.A.M.A., *143*:428, 1950.

7. Sandweiss, D. J., Saltzstein, H. C., Parks, A., and Scheinberg, S. S.: Hormone studies in peptic ulcer; ACTH and cortisone: Preliminary report. Read at the 99th Annual Session of The American Medical Association, San Francisco, California, June 28, 1950.

9. Sackler, A. M.; Sackler, M. D.; Sackler, R. R., and Ophuijsen, J. H. W.: Nonconvulsive biochemotherapy with histamine. A preliminary report on the treatment of hospitalized schizophrenic, manic-depressive and involutional psychotics. J. Nerv. & Ment. Dis. *110*:149, 1949.

10. Sackler, A. M.; Sackler, M. D.; Sackler, R. R., and van Ophuijsen, J. H. W.: Nonconvulsive biochemotherapy with histamine and electric convulsive therapy. A comparative study on hospitalized psychotics with a control ECT series. J. Nerv. & Ment. Dis., *110*:185, 1949.

11. Sackler, R. R.; Sackler, A. M.; Sackler, M. D., and van Ophuijsen, J. H. W. A three year follow-up study of non-convulsive histamine biochemotherapy, electroconvulsive therapy controls. J. Nerv. & Ment. Dis. In Press.

12. van Ophuijsen, J. H. W.; Sackler, A. M.; Sackler, M. D. and Sackler, R. R.: A new phase in clinical psychiatry. Part I and introduction to endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath. *12*:1, Jan.-Mar. 1951.

13. Sackler, R. R.; Sackler, M. D.; van Ophuijsen, J. H. W.; Co Tui, and Sackler, A. M.: An appraisal of the current status of histamine biochemotherapy in psychiatry and the theoretical significance of its effects. Part II of endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath., *12*:5, Jan.-Mar. 1951.

14. Sackler, M. D.; Sackler, R. R.; van Ophuijsen, J. H. W.; Co Tui, and Sackler, A. M.: An appraisal of the current status of steroid biochemotherapy in psychiatry. Part III of endocrinologic orientation of psychiatric disorders. J. Clin. & Exp. Psychopath., *12*:15, Jan.-Mar. 1951.

15. Siegel, M. G.; Sackler, M. D.; Sackler, A. M.; Sackler, R. R., and van Ophuijsen, J. H. W.: Improvement in schizophrenics following histamine and steroid therapy as revealed in psychological tests. Part IV of endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath., *12*:25, Jan.-Mar. 1951.

16. Sackler, A. M.; Sackler, M. D.; Sackler, R. R.; Co Tui, and van Ophuijsen, J. H. W.: On the pathogenesis of certain psychiatric disorders. Part V of endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath., *12*:30, Jan.-Mar. 1951.

17. Co Tui: Somatologic perspectives in psychiatric research. Part VI of endocrinologic orientation to psychiatric disorders. J. Clin. & Exp. Psychopath., *12*:35, Jan.-Mar. 1951.

18. Sackler, M. D.; Sackler, R. R.; Sackler, A. M.; Co Tui, and van Ophuijsen, J. H. W.: Sex steroid therapy in psychiatric disorders. The therapeutic effect of testosterone and estradiol on hospitalized psychotics. Acta Psychiat. et Neurol. (Scand.) *26*:415, 1951.

19. Sackler, M. D.; Sackler, R. R.; Sackler, A. M., and van Ophuijsen, J. H. W.: Recent biochemotherapeutic developments in psychiatry. Am. J. Psychiat. In Press.

Malpractice

MEDICO-LEGAL ASPECTS

Louis J. Gelber, M.D., LL.B.

ROCKVILLE CENTER, N. Y.

The mere fact that disability follows negligence does not necessarily create liability. The burden always rests on the plaintiff to prove by a preponderance of evidence that the physician or surgeon was negligent as alleged and to prove by means of reliable proof the necessary causal relationship between such negligence and the resulting injury or disability. If on the other hand, the evidence merely tended to prove that the injury or disability might have resulted from several causes not related to the negligence of the physician, the causal connection then remains in the realm of speculation. In this connection, it is to be observed that where various inferences can be drawn from the facts it is the province of the jury to make its finding on the question of negligence.

It appears that courts will exonerate a physician or surgeon if he fails to properly diagnose a case or even fails to take x-rays. Thus, in the following case the plaintiff proved that all of his suffering was attributed to the negligence of the treating physician.

To illustrate, this patient fell and injured his hip. The defendant physician was called in and diagnosed the injury as torn ligaments and prescribed bed rest.

The plaintiff remained in bed for a month or more suffering considerable pain. Defendant, although not requested to call, prescribed rest in bed. When subsequently a specialist was called, x-rays revealed plaintiff had a fractured hip, which an operation cured.

The patient then sued the first physician but lost because "a mistake in diagnosis," said the court, "does not constitute actionable negligence unless it is shown that the patient was injured in some manner by such erroneous diagnosis." In this case, no suffering or disability of the patient was shown.

It must be remembered that in order for a physician to be liable for malpractice he must have done something or omitted to do something in his treatment of his patient, which the recognized standard of good medical practice in the community in which he is practicing forbids in such cases, or he must have neglected to do something which such standard requires. It must furthermore be established that these recognized standards of good medical practice are shown by affirmative evidence. Negligence on the part of a physician must be established by expert testimony unless the negligence is so apparent that a layman would have no difficulty in recognizing it.

Negligence on the part of a physician cannot be presumed from evidence merely of pain and suffering, or failure to effect a cure or to obtain the result expected by the patient. Although the physical appearance of a patient following a physician's treatment and the patient's declaration with respect to the existence or severity of

pain may be proved by lay testimony, yet, whether or not the negligence of the physician was the primary cause thereof, must be established by expert testimony. Besides, where expert testimony discloses nothing more than an error of judgment, the physician is not guilty of malpractice. It must be shown by expert testimony that the damages suffered by the plaintiff resulted from the failure of the defendant to possess and use that degree of care and skill ordinarily possessed and used by physicians and surgeons in good standing in the community.

It may therefore be stated generally that in malpractice actions no presumption of negligence arises from an error of judgment in the diagnosis or treatment prescribed by a physician or in his failure to effect a remedy or accomplish as good a result as some one else might have done.

A physician is neither a warrantor nor an insurer of cures.

Cases of malpractice are on record where the standard of care was not dependent upon "locality." In other words, it behooves a physician or specialist to be judged according to the standard of care, skill and diligence that would have been exercised by "a physician and surgeon of ordinary care, skill and diligence" under the same circumstances and conditions—*regardless of locality*. To illustrate a case (*King v. Ditto (Oregon)* 19 P (2d) 1100), the patient received an x-ray burn on the hand as the result of treatment by the defendant physician. The latter admitted that several fluoroscopic examinations were done on the patient to remove a foreign body from the hand. The question was: "Did the defendant fail to exercise reasonable care in his use of the x-ray machine?"

The Supreme Court in the above case stated that although the degree of care and skill depends somewhat on locality, yet the duration of exposure especially when roentgen rays are not used for treatment, has become so fixed and exact that physicians are cognizant of it whether they practice in Pumpkin Centre or New York City. It would furthermore be negligent for a physician to expose a patient to roentgen rays for the length of time claimed by plaintiff, regardless of the locality in which the physician was practicing. Where x-rays are used, the defendant physicians are to be judged according to the care, skill and diligence of other practicing physicians regardless of locality.

Here, the physician failed to follow the formula relative to time of exposure universally accepted by the profession regarding x-rays.

A case in the Midwest occurred wherein a patient consulted the defendant physician because of the swelling of his left knee. The latter made a diagnosis of sarcoma and employed a course of treatments that did not improve the patient's condition. The left knee became progressively worse at which time another doctor was consulted. The patient was immediately hospitalized and x-rays and Wasserman tests made. The latter tests were found to be positive and a diagnosis of syphilis was made. Antisyphilitic treatment was followed by immediate improvement.

Because of the constant pain that the patient suffered as well as a crippled and stiffened knee, the patient plaintiff sued the first doctor for malpractice. Upon verdict for plaintiff, the defendant appealed to the Supreme Court of his state, where,

because of an erroneous instruction given by trial court, a new trial was ordered. However, the second trial resulted in a judgment for plaintiff.

In this case, the Supreme Court stated that not only did the plaintiff physician fail to take a proper history but also failed to take a blood test, x-rays and a biopsy. (*Fortner v. Koch* (*Mich.*) 269 N. W. 222.)

Regarding the termination of the doctor-patient relationship it was stated in (*Hopkins v. Heller* 59 *Calif. App.* 447 452; 210 P. 975) that, "When a physician takes charge of a case and is employed to attend a patient, his employment as well as the relation of physician and patient continues until ended by the consent of the parties or revoked by the dismissal of the physician or until his services are no longer needed."

For example, when a surgeon performs an operation, not only must he use reasonable and ordinary care and skill in its performance but also in the subsequent treatment of the case. It is his duty to give the patient such attention after the operation as the necessity of the case demands.

An interesting case recently occured in California wherein a patient's eye was struck by the head of a nail. He accordingly was attended by the defendant physician who examined the eye and found a laceration of cornea and air bubbles present. The physician did not use an x-ray to determine the presence of any foreign bodies. He merely washed the eye with boric acid and instilled argyrol. Patient was discharged after 10 days of treatment. Three weeks later, patient again reported to defendant physician who at this time referred plaintiff to an ophthalmologist. It was then discovered that the patient had a foreign body in the vitreous. After removal of this foreign body, the retina collapsed and plaintiff lost sight of his eye.

Upon suit, the trial court found in favor of defendant. The District Court of Appeals, however, held that the evidence established a prima facie case of malpractice. The legitimate inference to be drawn from it is that the attending physician should have suspected the presence of a foreign body in the eye.

Furthermore, when he failed to make such examination as would make reasonably certain that there was nothing in the eye, he failed to exercise that degree of care which the practice of his profession requires and that this lack of care was the proximated cause of the loss of sight. The court further stated that it could not understand how a physician examining the injured eye and viewing the air bubbles and laceration would not examine further by x-rays to rule out a foreign body.

The Supreme Court finding for the patient stated: "There is further evidence that ordinary skill and care required the use of x-rays as an essential aid to a skillful diagnosis, employing that skill and care possessed and used by the ordinary practitioner in that community. Indeed, it might be almost said that the use of the x-ray as an aid to diagnosis, in cases of fracture or other indicated cases, is a matter of common knowledge. Even the layman, when injured, seeks the x-ray of his own accord."

X marks three reasons why . . .

TAMPAX

To Avoid Most Periodic Absenteeism

TAMPAX

To Allow Many Popular Activities

TAMPAX

To Achieve Marked Patient Acceptance

THE INTRAVAGINAL MENSTRUAL GUARD OF CHOICE

COMFORTABLE — physically and psychologically
CONVENIENT — easy to use, with individual applicators
SAFE — eliminates odor and irritation

TAMPAX

Three Absorbencies Mean Positive Assurance

Regular, Super, and Junior

TAMPAX INCORPORATED · PALMER, MASS.
ACCEPTED FOR ADVERTISING IN JOURNALS OF THE AMERICAN MEDICAL ASSOCIATION

Pan American Medical Woman's Journal

ASSOCIATE EDITOR
Catherine H. Roth, M.D.
New York City

EDITOR-IN-CHIEF
Elizabeth Mason-Hohl, M.D.
1234 No. Vermont Ave.
Hollywood 27, California

ASSOCIATE EDITOR
Alma Dea Morani, M.D., D.N.B., F.A.C.S., F.I.C.S.
Philadelphia, Pennsylvania

Allergic Diseases of Infancy and Childhood

Lloyd S. Nelson, M.D.
Albert V. Stoesser, M.D., Ph.D.

THE DEPARTMENT OF PEDIATRICS
MEDICAL SCHOOL, UNIVERSITY OF MINNESOTA

The first evidence of an allergic state in the infant is the skin eruption. Urticaria may begin in the first few days of life. In this period, hives are usually transient and, while alarming to the mother, nurse, and physician, they rarely need definite treatment. Hives in the infant are usually of the macular type. In older children, typical wheal formation is seen. Hypersensitivity to foods is the most common cause, but drugs such as aspirin, phenolphthalin, sulfonamides, penicillin, or barbiturates may also be offenders. The emotional factor, which is so common in urticaria in adults, is less likely to be a factor in urticaric children.

Eczema is the most common allergic syndrome in infants, usually beginning in the first few months of life. It is more frequent in the bottle-fed child, appearing in the breast-fed baby only after the introduction of solid foods.

In the first few years of life, foods are of the greatest importance in the development of allergy; inhalants and pollens assume greater importance in the older child. In many children atopic eczema is complicated by contact dermatitis resulting from over-zealous treatment, but rarely does a true allergic contact dermatitis exist as a primary entity. Wool, feathers, and dust can produce true contact dermatitis. There is a common misconception that the baby with eczema will outgrow the allergy; however, it is more common to develop a shift in the shock organ, and respiratory allergies are the usual sequence.

Chronologically, the next allergic condition to develop affects the upper respiratory tract. Whenever there is a history of numerous colds, the possibility of allergic rhinitis should be given consideration. Small children rarely have more than five or six colds a year. The uncomplicated cold should run its course in approximately a week. Many of these children are treated repeatedly with antibiotics without knowledge of the real cause. Some children are subjected to needless tonsillectomies in the hope that the disease will be cured. If sound surgical indications for a tonsillectomy are present, then it should be performed but only when the allergic state is well under control.

Reprinted from MD, November, 1952.

Seasonal pollinosis does occur in infants, but it is not common in very early childhood. Symptoms in the older child are similar to those in the adult. They are characterized by nasal obstruction and discharge, sneezing, lacrimation, and burning of the eyes. Weeds pollinate in the fall of the year, while grass pollen appears in the summer. The trees are spring pollinators and commonly produce vernal conjunctivitis.

It is impossible to make a definite diagnosis in some incipient cases of seasonal pollinosis. The initial symptoms may occur only at the height of the pollen counts and may consist of only mild nasal obstruction and rhinorrhea. The physician who obtains a history of seasonal recurrences must consider the possibility of allergic disease to arrive at the correct diagnosis.

Asthma frequently begins in the first two years of life. Many children give histories of skin allergies as infants, followed by allergic rhinitis and, later, asthma.

The earlier in life that asthma appears, the more severe it is likely to be. An acute attack of asthma in the young child is a terrifying experience to the child, as well as the parents, and it is not likely to be misdiagnosed. Young children with mild asthma do not manifest the apprehension or dyspnea which are so typical in the adult. It is common to find wheezing and râles in these children; however, they seem to lead perfectly normal lives.

It is imperative to make a diagnosis of respiratory allergy as quickly as possible. The possibility of nasal and palatine deformities in the chronically obstructed nose is well-known. An occluded airway predisposes to middle ear infections; impaired hearing may follow. Bronchiectasis is frequently caused by bronchial asthma. Emphysema with associated thoracic and spinal column deformities in the uncontrolled asthmatic child is tragic.

Allergy should be considered in evaluating gastrointestinal complaints in the allergic child. The diagnosis of gastrointestinal allergy must, of necessity, be one of exclusion. Many infants who are diagnosed as "colicky" may show improvement with removal of cow's milk from the diet. The principal symptoms in gastrointestinal allergy are colicky abdominal pain and diarrhea. Vomiting may occur in highly sensitive children. Hyperperistalsis in the young baby may simulate pyloric stenosis. The presence of considerable mucus in the feces and a stool eosinophilia in a child with a strong allergic background should be suggestive of gastrointestinal allergy.

There are other conditions which have an allergic background, such as, allergic purpura, some cases of migraine, and vernal conjunctivitis. There may be an allergic element in such disorders as recurrent canker sores, nonspecific urethritis and vulvo vaginitis, as well as some cases of epilepsy.

All patients must have complete physical examination, and, where indicated, chest x-rays should be taken. Nasal smears are studied for eosinophiles.

In the management of any allergic disorder, a great deal of time is required to obtain a detailed history and chronological record of the problem. The prenatal history should include any food-produced gastrointestinal upsets in the mother. A detailed record of feeding habits, formulas, and reactions to newly-introduced foods must be procured. Any seasonal variation of symptoms will offer clues to offending allergens. The child's reactions during sleep, at play, and at school should be investigated with

great care. Any reaction to drugs, for example barbiturates and atropine, should be noted.

Elimination of common allergens from the diet and environment offers a fairly satisfactory method of treatment in the young child. The most common food allergens are eggs, cow's milk, wheat, fish, nuts, potatoes, tomatoes, orange juice, spices and chocolate. The contact and inhalant allergens which are of importance in the small baby are animal danders, wool, feathers, kapok, and house dust. In the older child, both the diet and environment are more complex, and, therefore, elimination procedures are not as satisfactory.

Cutaneous tests offer a means of detecting offending allergens and should be performed whenever a definite allergy is diagnosed. Allergic testing can be done by the scratch method, puncture method, intradermal injections, patch test, and passive transfer. All methods have some merit, but in children the puncture technic is preferred. It is important to use fresh antigens.

The value of all cutaneous tests is limited and in the interpretation of the results, the child's history, environment, eating habits, and severity of symptoms must be evaluated. Foods are the most important allergens in infancy. Inhalants assume a progressively more important role as the child grows older. Pollens are rarely of importance until four or five years of age. Sensitivity to specific antigens may not be permanent, disappearing after several months, and the antigen may frequently be reintroduced into the child's diet or environment. It is important that the child's diet be adequate from a nutritional standpoint. Evaporated milk is better tolerated than whole milk and, in general, the antigenicity of many foods is lowered by boiling. If the milk consumption is decreased, then calcium must be provided in other forms. If the child is sensitive to fish, then vitamins should be of the synthetic type. By simply rotating the foods, an adequate diet can often be maintained. Where possible, the elimination of the offending allergen offers the best results. With inhalant allergens, this is often not possible and hyposensitization must be resorted to. In the treatment of pollen asthma and pollinosis, this method gives the best results. The treatment of the other inhalant allergies by injection gives mediocre results. Foods are poor antigens, and attempts to hyposensitize a patient to them are usually disappointing.

The antihistamine drugs are of value in allergic rhinitis. Antistine, neohetramine, and neoantergan give fewer side reactions but are also relatively weak drugs. Thephorin, chlor-trimeton, pyrrolozote pyribenzamine, and benadryl are the most powerful members of this group. Thenylene, diatrin, histadyl, tagathen, chlorathen, and decapryn are intermediary in action. In some children a sedative effect is desired, and for these patients drugs such as decapryn or benadryl are particularly suited. A few children need added stimulation, and this can be accomplished by thephorin. Some of the antihistamines have a very decided atropine-like action and are harmful in that they tend to dry the secretions and thereby precipitate asthma.

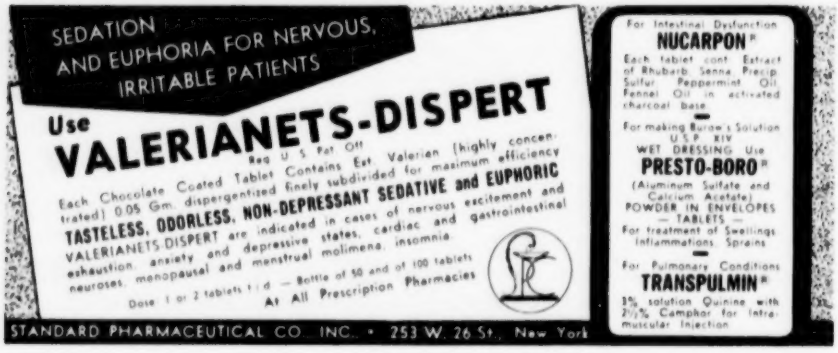
The use of antihistamines in the treatment of bronchial asthma has been highly over-rated. The use of the antibiotics in an acute attack of asthma is abused. This may be due to the misconception that an asthmatic attack is caused by infection

alone. If the concept of underlying allergy with superimposed infection were clearly understood, a more reasonable plan of treatment would be followed. One must remember that these drugs, particularly penicillin and aureomycin, and to a lesser degree terramycin, are capable of sensitization.

The primary disturbance in bronchial asthma is obstruction of the bronchial tree by edema, smooth muscle spasm, and retained secretions. The main objective is to clear the bronchial tree of obstruction. Expectorant cough mixtures incorporating potassium iodide, sodium or potassium citrate, ammonium chloride or ipecac are essential in good management. Numerous mixtures of these drugs in combination with sedatives and antihistamines are available. Hydration in the asthmatic patient is extremely important. The ill child tends to become dehydrated, thus further concentrating the secretions; dramatic results by the simple administration of fluids are often obtained. The sympathomimetic drugs such as orthoxine, racephedrine, propadrine hydrochloride, benzylphedrine, isuprel, and epinephrine are needed for their bronchodilator effect. These drugs may be used alone, but usually are administered in conjunction with a sedative and/or an antihistamine. Syrup of orthoxine works well in the infant, whereas franol, amodrine, tedral, or amesec can be used in the child capable of swallowing a tablet. Epinephrine is the most effective drug in the treatment of an acute attack. Small doses of adrenalin injected hypodermically may be given at frequent intervals for many days without harmful effects. Doses of 2 or 3 minims give just as effective relief as larger doses and the side effects are minimal. Epinephrine in oil or in gelatin may be employed for a more lasting effect, but one must be careful to ascertain that the child is not sensitive to the vehicle used.

The xanthine drugs are also bronchodilators, and, of this group, aminophylline works well. It may be used orally, rectally, or intravenously. In children, this drug frequently produces nausea and vomiting.

Many of the causative factors in allergy are not completely understood. We have attempted to present a simple outline of common allergic disorders in infants and children.

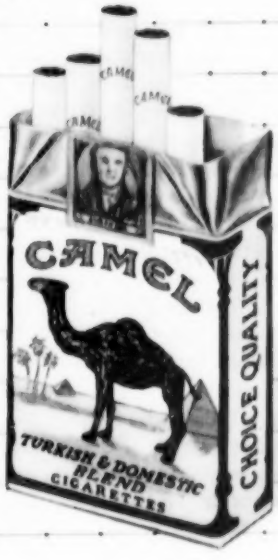

SEDATION
AND EUPHORIA FOR NERVOUS, IRRITABLE PATIENTS
Use
VALERIANETS-DISPERT
Reg U S Pat Off
Each Chocolate Coated Tablet Contains Ext Valerian (highly concentrated) 0.05 Gm. dispergentized finely subdivided for maximum efficiency
TASTELESS, ODORLESS, NON-DEPRESSANT SEDATIVE and EUPHORIC
VALERIANETS-DISPERT are indicated in cases of nervous excitement and exhaustion, anxiety and depressive states, cardiac and gastrointestinal neuroses, menopausal and menstrual molimena, insomnia
Dose 1 or 2 tablets t i d — Bottle of 50 and of 100 tablets
At All Prescription Pharmacies
STANDARD PHARMACEUTICAL CO. INC. • 253 W. 26 St., New York
For Intestinal Dysfunction
NUCARPON
Each tablet cont Extract of Rhubarb Senna Precip Sulfur Peppermint Oil Fennel Oil in activated charcoal base
For making Burow's Solution U S P XIV
WET DRESSING Use
PRESTO-BORO
(Aluminum Sulfate and Calcium Acetate)
POWDER IN ENVELOPES — TABLETS —
For treatment of Swellings Inflammations Sprains
For Pulmonary Conditions
TRANSPULMIN
3% solution Quinine with 2½% Camphor for Intramuscular Injection

THERE MUST BE A REASON WHY

Camel

leads all other brands

by billions!



SO MILD, SO FLAVORFUL!

GENERAL PRACTICE CLINICS

8. *Eczematous Dermatitis of the Hands Due to Food Allergy.* JAMES M. FLOOD, Sayre, Pa. Postgrad. Med. *13*:26-31, January 1953.

A practical outpatient approach to the management of dermatitis of the hands due to food allergy is presented. A brief discussion of dermatitis of the hands is presented.

An eruption of long standing should arouse one's suspicions that the cause may be a sensitivity to a food. Features of this condition which are helpful, are first of all the primary lesion of the disease is a vesicle; vesicles appear in crops and are deep seated. Most patients of this group have had a great deal of treatment. Cyclic exacerbations once or twice a week are common.

The cases selected for dietary study should meet the following specifications: (1) there should be recurrent vesicular eruption of long standing (six months to many years); (2) no active fungous infection can be demonstrated on either hands or feet, and (3) there have been no obvious contact factors or the patient has been consciously avoiding them. These patients deserve a test for food allergy which must be carried out by actual ingestion tests.

A practical approach—one that can be used with outpatients—has been developed in the use of the low allergen diet. The basic diet consists of beef, salmon, cabbage, Ry-Krisp®, cherries, pears, prunes, tea, salt, and sugar.

In preparing this diet the patient must be cautioned not to add any other foods in preparation of the meal. The basic diet is usually given for a period of four to seven days. At the end of that time the physician and patient decide whether the dermatitis is better or worse. The patient will usually become worse if he is sensitive to any of the foods on the basic diet, because he is taking more of them than he usually would. Improvement is evidenced by decrease in itching, decrease in edema (patient can bend fingers more easily), less erythema, and no new vesicles.

If there is improvement the patient is instructed to add one simple food every other day. The new food is continued for two days and if no reaction is observed another new food is selected.

Each day the patient carefully inspects his hands for evidence of a reaction. This is indicated by (a) increase in itching two to eight hours after the ingestion of food, (b) erythema at the sites of the dermatitis, (c) new vesicle formation, and (d) oozing if the reaction is severe. It is important to be able to identify new vesicles from old ones. The new vesicles are in various stages of development, the vesicle wall is taut and translucent and the fluid is clear. New vesicles have a zone of erythema which fades in 12 to 36 hours; the tops then become brown or

yellow in color and tenseness of the vesicle is lost. New vesicles frequently appear at the periphery of the patches. If there has been a reaction the patient must wait until this subsides (two to four days) before adding the next food.

Milk and then wheat are the first foods added to the diet as once these foods can be taken, the diet is much easier to carry out. If there is a reaction to either of these foods, it is usually pronounced and helps to convince the patient that his difficulty is due to ingestion of foods.

When milk is added, butter, American cheese and cottage cheese are allowed. It is well to test the patient to milk before wheat unless a milk-free bread is used. Puffed Wheat®, Cream of Wheat® and Shredded Wheat® are allowed with the bread. Pork, ham and bacon are added as a single food.

After the patient has tested himself to a number of foods and found reactions to one or two, a full diet, excluding those foods which cause reactions, may be tried. If his dermatitis does not improve he resumes his testing where he left off.

Once the offending food or foods have been discovered the patient must avoid these agents completely. Powdered milk solids in bread can produce a reaction in a milk-sensitive patient. Patients must develop the habit of questioning the contents of food mixtures.

After the patient's hands have been clear on his specific allergen-free diet for a period of three months, he may test himself with the offending foods again. 4 references. 2 figures. 1 table. —*Author's abstract.*

9. *Carbon Dioxide Inhalation Therapy of Neuroses.* JOHN D. MORIARTY, Los Angeles, Calif. J. Clin. & Exper. Psychopathology *14*:July-September 1952.

Carbon dioxide inhalation therapy produces favorable effects in many anxiety states and phobic reactions, some character neuroses, certain psychosomatic conditions like spastic colitis and migraine headaches, and some alcoholic problems. It is usually very desirable to utilize psychotherapy in close conjunction with this neurophysiologic treatment.

The neurophysiologic action of CO_2 on the nerve cell is to raise the membrane potential, which in turn raises the threshold of stimulation of the nerve, decreases the speed of conduction of impulses, and increases the height and prolongs the duration of the action potential. The central effects of carbon dioxide include a marked increase of cerebral blood flow, increase in the respiratory rate and oxygenation of the blood, and a shift of the cortical *p*H to the acid side. In general CO_2 first inhibits the higher (cortical) centers and releases the lower (brain stem) centers. Secondarily, the latter are inhibited in progressive fashion, in reverse order of their phylogenetic development.

In a series of 213 patients over a three year period a total of approximately 6,200 carbon dioxide treatments have been administered. The results in the first 66 patients are analyzed in detail. Discussion of possible healing mechanisms of the treatment is offered. —*Author's abstract.*

book reviews

Biological Antagonism. The Theory of Biological Relativity. GUSTAV J. MARTIN, Sc.D. Philadelphia, The Blakiston Company, 1951. 516 pages, 64 figures, 44 tables. Price $8.50.

This is a thorough, complete, yet concise, presentation of the theory of biological relativity, that "general law" which underlies all biological activity and is fundamental to the resolution of all problems in biology.

The author reviews biological antagonism as reflected in natural and synthetic displacing agents, covers antagonism as seen in the fields of amino acids, purines, pyrimidines, vitamins, hormones, minerals, and as it forms the basis of immunology, pharmacology, and chemotherapy. Finally, he offers the concept of biological relativity based upon extensive study of these biological antagonisms.

Research workers in immunology, pharmacology, chemotherapy, medicine, and the entire field of biology will find the 1,900 references throughout the book extremely helpful. Carefully selected by the author because of their pertinence to the subject, they present a comprehensive survey of all the literature in the field.

Body, Mind, and Sugar. E. M. ABRAHAMSON, M.D. AND A. W. PEZET. New York, Henry Holt and Company. Price $2.95.

This book concerns hyperinsulinism, a vital, but little-known medical discovery which was first revealed some years ago, but which only today is coming to be understood generally by the medical profession. Every phase of this condition is clearly explained in this volume, and simple diets which have been successfully used in its treatment are given. In addition, the book includes many case histories which help in understanding the true nature of the disease. *Body, Mind, and Sugar* is the first popular book ever published on hyperinsulinism; it is destined to shatter many outdated medical concepts and stir up lively controversy throughout the world

The Living Body, A Text in Human Physiology. BEST AND TAYLOR, Henry Holt & Co., 1952. Price $5.50.

The dynamic nature of physiologic study is of continuous fascination to the interested student. The subject is never static but forever changing, always flowing and restless with fresh discoveries and new conceptions which sweep away without regret any old ideas and theories. These rapid advances have made this new edition possible. Fortunately, the entire subject has been covered in a clear and concise manner. It takes little technical training to get an insight into body processes and functions. The authors have indeed clarified their standard textbook on physiology into this relatively popular edition containing instructive diagrams and illustrations. The whole panorama of life is portrayed in this condensed physiology text.—*I. Newton Kugelmass, M.D.*

Quarterly Review of OPHTHALMOLOGY

Editorial Board

CONRAD BERENS, M.D.
Editor-in-chief

national board

WALTER S. ATKINSON, M.D.
Watertown, N. Y.
ROBERT E. BANNON, D.O.S.
Southbridge, Mass.
S. JUDD BEACH, M.D.
Portland, Maine
WILLIAM L. BENEDICT
Mayo Clinic
EUGENE M. BLAKE, M.D.
Yale University
HENRY N. BRONK
New York, N. Y.
JOHN W. BURKE, M.D.
Washington, D. C.
BURTON CHANCE, M.D.
Philadelphia, Pa.
DAVID G. COGAN, M.D.
Harvard University
FREDERICK C. CORDES, M.D.
University of California
ALFRED COWAN, M.D.
University of Pennsylvania
C. L. CROUCH
New York, N. Y.
PERCE DeLONG, M.D.
University of Pennsylvania
EDWIN B. DUNPHY, M.D.
Harvard University
JOHN N. EVANS, M.D.
Brooklyn Eye and Ear Hospital
F. BRUCE FRALICK, M.D.
University of Michigan
GLEN FRY, O.D.
Ohio University
EVERETT L. GOAR, M.D.
Houston, Texas
JAMES N. GREEAR, M.D.
Georgetown University
JACK S. GUYTON, M.D.
Johns Hopkins University
PARKER HEATH, M.D.
Winchester, Mass.
S. RODMAN IRVINE, M.D.
University of Southern California
DANIEL B. KIRBY, M.D.
New York University
ARLINGTON C. KRAUSE, M.D.
Chicago, Ill.
ALBERT N. LEMOINE, M.D.
Kansas City, Mo.
MICHEL LOUTFALLAH, M.D.
Santa Barbara, Calif.
WILLIAM H. LUEDDE, M.D.
St. Louis University
DONALD J. LYLE, M.D.
University of Cincinnati
JULIUS NEUMUELLER, O.D.
Haddonfield, N. J.
CECIL S. O'BRIEN, M.D.
Tucson, Arizona
BRITAIN F. PAYNE, M.D.
New York University Medical College
OGDEN D. PINKERTON, M.D.
Honolulu, T. H.
LAWRENCE T. POST, M.D.
Washington University, St. Louis, Mo.
AVERY D. PRANGEN, M.D.
Mayo Foundation
ALGERNON B. REESE, M.D.
Columbia University
C. WILBUR RUCKER, M.D.
Mayo Foundation
ALBERT D. RUEDEMANN, M.D.
Wayne University
G. VICTOR SIMPSON, M.D.
Washington, D. C.
K. B. STODDARD, Ph.D
University of California
GEORGIANA DVORAK-THEOBALD, M.D.
Chicago, Ill.
PHILLIPS THYGESON, M.D.
San Jose, Calif.
CLIFFORD L. TRELEAVEN, A.M.
Columbia University
DERRICK VAIL, M.D.
Northwestern University
ROBERT T. WONG, M.D.
Honolulu, T. H.
JOSHUA ZUCKERMAN, M.D.
New York University

international board

MOACYR EYCK ALVARO, M.D.
Sao Paulo Medical College
Sao Paulo, Brazil

MARC AMSLER, M.D.
Universitatez-Augenklinik
Zurich, Switzerland

J. RINGLAND ANDERSON, M.D.
Melbourne, Australia

RAUL ARGANARAZ, M.D.
Buenos Aires, Argentina

ALFREDO ARRUGA, M.D.
Barcelona, Spain

L. E. BARRIERE, M.D.
Lima, Peru

ALBERTO VAZQUEZ BARRIERE, M.D.
Montevideo, Uruguay

RODRIGUEZ BARRIOS, M.D.
Montevideo, Uruguay

M. SORRY BEY, M.D.
Cairo, Egypt

GIAMBATTISTA BIETTI, M.D.
Parma, Italy

LUIS SANCHEZ BULNES, M.D.
Mexico, D. F.

HOWARD COVERDALE, M.D.
Auckland, New Zealand

SIR STEWART DUKE-ELDER, M.D.
London, England

J. M. ESPINO, M.D.
Caracas, Venezuela

STEPHEN DE GROSZ, M.D.
Budapest, Hungary

A. HAGEDOORN
Universiteit van Amsterdam,
Holland

EDWARD HARTMANN, M.D.
Paris, France

RAFAEL IRIBARREN, M.D.
Buenos Aires, Argentina

ALEXANDER JOKL, M.D.
Johannesburg, South Africa

KARL LINDNER, M.D.
Vienna, Austria

T. H. LUO, M.D.
Peiping, China

JOHN A. MACMILLAN, M.D.
McGill University, Montreal

CLEMENT MCCULLOCH, M.D.
University of Toronto

JORGE MALBRAN, M.D.
Buenos Aires, Argentina

EDGARDO MANZITTI, M.D.
Buenos Aires, Argentina

HENRIQUE MOUTINHO, M.D.
Lisbon, Portugal

J. V. V. NICHOLLS, M.D.
McGill University Medical School,
Montreal

R. PACHECO-LUNA, M.D.
Guatemala City, Guatemala

L. B. SOMERVILLE-LARGE, M.D.
Dublin, Ireland

KARL WESSELY, M.D.
Munich, Germany

TOMAS R. YANEZ, M.D.
University of Havana

INCORPORATING INTERNATIONAL RECORD OF OPHTHALMOLOGY

FOREWORD

The objective of the QUARTERLY REVIEW OF OPHTHALMOLOGY is to bring together in one publication concise but authoritative abstracts of current articles on ophthalmology, according to an all inclusive plan which will include all special, state, and national journals as well as the bulletins of clinics, hospitals, etc., and the transactions of meetings. This embraces both the domestic and foreign literature.

To assist the reader to locate quickly the articles of current interest all data are classified and published according to the following systematic plan:

Anatomy, Embryology, Heredity, Development and Nutrition

Optics, Physiology and Psychology of Vision

Physiology, Chemistry and Biochemistry of the Eye

Pathology, Bacteriology and Immunology

Diagnostic Methods of Examination Biomicroscopy and Photography

Ocular Movements and Motor Anomalies, Nystagmus, Reading Disability

Anomalies of Refraction and Accommodation, Contact Lenses

Conjunctiva

Cornea, Sclera and Tenon's Capule

Anterior Chamber and Pupil

Uveal Tract and Sympathetic Ophthalmitis

Crystalline Lens

Vitreous Humor

Retina

Neuro-Ophthalmology, Optic Nerve, Visual Pathways, Centers and Visual Fields

Eyeballs, Exophthalmos and Enophthalmos

Glaucoma and Hypotony

Lacrimal Apparatus

Eyelids

Orbit

Allergy

Anesthesia

Medical Ophthalmology

Pharmacology, Toxicology and Therapeutics

Comparative Ophthalmology

Tropical Ophthalmology

Hygiene, Prophylaxis, Occupational Ophthalmology and Injuries

Illumination and Illuminating Engineering

Ophthalmic Sociology

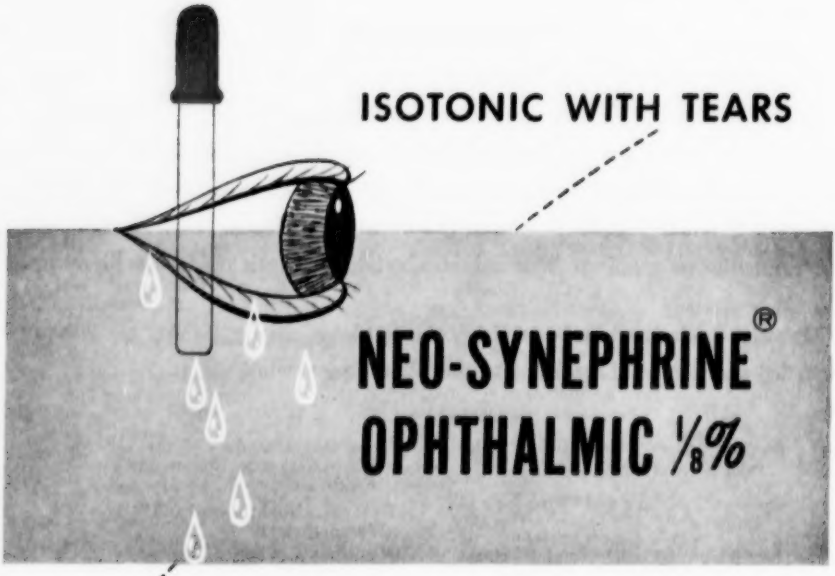
Education, History and Institutions

Miscellaneous

Book Reviews

Announcements

A section entitled International Record of Ophthalmology is included at the beginning of the journal. The Record Section consists of advanced clinical and experimental reports.



FOR CONJUNCTIVAL DECONGESTION

The mild but definite vasoconstriction provided by Neo-Synephrine hydrochloride Ophthalmic 1/8% solution occurs without initial sting, since the efficient vasoconstriction is in a specially formulated vehicle that is isotonic with tears.

One or two drops repeated three or four times a day usually suffice for the relief of congestive conjunctivitis due to physical and chemical irritants, itching and smarting associated with eyestrain, and excessive tearing resulting from allergic states.

Neo-Synephrine hydrochloride Ophthalmic 1/8% solution is available in 15 cc. (1/2 fl. oz.) bottles.

OTHER OPHTHALMIC FORMS FOR OFFICE USE:

Neo-Synephrine hydrochloride Emulsion 10%
Neo-Synephrine hydrochloride Solution, 2.5% and 10% (plain or viscous)
Neo-Synephrine hydrochloride ophthalmic viscous solution 10% in collapsible tubes of 1/8 oz.

Neo-Synephrine, trademark reg. U. S. & Canada, brand of phenylephrine

Winthrop-Stearns INC.
NEW YORK 18, N. Y. WINDSOR, ONT.

Quarterly Review of **OPHTHALMOLOGY**

ABSTRACTS

1. *Skin Manifestations of Intrinsic Allergies.* L. J. OWEN, Lincoln, Neb. Abstract of paper read at Eighth Congress of Pan-American Medical Association Cruise, January 1953.

Allergies resulting from intrinsic source are dealt with, i.e., foci of infection, bacterial, mycotic, virus or parasitic, that are the source of allergens. The clinical manifestations on the skin are those of wide variation of eczemas.

The most common of such lesions are of the mycid type. Skin tests were made in patients clinically suggestive of allergic reaction. Positives found in about 23 per cent of approximately 2000 cases of fungus infection. Group sensitization of the trichophyton can be differentiated from the oidiomycins, i.e., the yeasts or fungi imperfecti. Seventy-five per cent of these patients were under 40 years of age.

Allergic reaction to pyogenic skin infections constitutes the group known as bacterids. There were 65 such patients, 2.6 per cent of about 2500 cases of pyogenic dermatoses. Fifty of the 65 cases were under 40 years of age. Autogenous vaccines may be very helpful in these patients. A desensitizing dosage must be followed or severe reactions are possible.

Dental infection is the most common source of allergy from hidden foci. The removal of one root infection can result in complete healing of a severe, persistent eczema. There were 57 such patients, age range 22–83 years. All but 4 over 40 years of age. If there is extensive osteitis present in the jaws, complete healing of the skin condition may be prolonged.

There were 6 cases of prompt control of the dermatitis with control of renal infection and pyuria. In 3 cases there was recurrent flare of dermatitis coincident with recurrent flare of pyuria.

There were 4 cases of prompt recovery of dermatoses of several months to several years standing, following removal of infection of gall bladder.

Thoracic infection with bronchitis was the source of allergen in 4 patients. Autogenous vaccine was used in all these cases after skin test showed definite or sharp sensitivity. Healing of the skin condition and clearing or marked improvement of the respiratory symptom resulted.

I have records of 3 patients with extensive eczematoid rash of arms and trunk associated with infection of varicose ulcers of legs. Control of leg infection resulted in prompt clearing of distant rash.

There were 2 cases in which search for infection, by the internist, found only chronic, recurrently discharging otitis media. Autogenous vaccine and skin test, decided the use of this vaccine to desensitize, with excellent result proving the source of allergen.

Inflammatory reaction of the eyelids, chronic conjunctivitis and stubborn corneal ulcers have been part of the clinical picture, with some of the dental infections. When these heal promptly, as some do, along with the skin, their connection with the intrinsic allergy is certain.

Intrinsic factors associated with food or drug rashes, or with contact dermatitis are not rare. In the above report these have been essentially eliminated. The major or only found source of allergy was intrinsic, and its recognition and removal, or treatment was necessary to obtain relief for the patient.

OPTICS, PHYSIOLOGY AND PSYCHOLOGY OF VISION

2. *A Comparison of Vision Screening Tests with Clinical Examination Results.* ALBERT E. SLOANE AND J. ROSWELL GALLAGHER, Boston, Mass. Amer. J. Ophth. *35*:819-30, June 1952.

This report discusses and compares the findings of a vision screening test (the modified Massachusetts Vision Test) with the subsequent findings of an ophthalmologist. A group of 185 adolescent boys who, on the basis of this rapid, simple vision screening test, were believed to be in need of a specialist's examination were referred to one ophthalmologist. This furnished an unusual opportunity to judge the efficiency of the modified Massachusetts Vision Test.

Of the 84 boys referred on the basis of failure of the visual acuity part of the screening test, 83 per cent were found by the specialist to need glasses or a change in the present glasses, and in all but one case the ophthalmologist's findings were in essential agreement with the screening test results.

Ten per cent of the group failed the test for hypermetropia (the plus 1.50 test). The specialist found that all of these needed attention and his findings were in essential agreement with the screening test results.

Of the 21 boys who passed both the visual acuity test and the plus 1.50 test and who were referred because of failure of one of the phoria tests, 6 were found to need glasses or a change in glasses and in only one instance was there significant disagreement between the screening and the clinical test results.

On the basis of symptoms of eye strain alone, 61 boys were referred to the specialist. None of these had abnormal findings in any part of the screening test but 13 of them were found by the ophthalmologist to have some abnormality. This emphasizes the desirability of including questions regarding eye strain as part of any vision screening test.

The authors feel that this vision screening test which a teacher or nurse can quickly and easily be taught to administer is an efficient method of screening out those adolescents who should be referred for a specialist's examination. 6 references. 7 tables.—*Author's abstract.*

3. *The Objective Determination of Visual Acuity on the Basis of the Optico-Kinetic Nystagmus.* WILLIAM P. SCHUMANN, Vineland, N. J. Am. J. Optom. & Arch. Am. Acad. Optom. 29:575-83, November 1952.

A report has been made to determine the visual acuity objectively with the aid of the optokinetic nystagmus. The optokinetic nystagmus is of a physiologic nature, and as such can be easily induced and demonstrated. To create it, a movable object of regard under a maximum speed up to 5 degrees has to be fixated by the eyes which will result in visible nystagmus. The higher the visual acuity, the easier it will be recognized. Black and white stripes, a black and white chessboard raster, and a pendulum arrangement were used as test objects.

Two instruments are described, which in order to induce nystagmus rotate the test object over a drum or drums. Ohm used a stationary test-distance of 50 cm. while Guenther's varied up to 1.5 M. Ohm changed the size of his test objects to smaller and smaller ones and from its size and the angle under which it was seen derived the visual acuity. Guenther used known distances and test objects of known angular values and aimed to keep the field of innervation constant.

To obtain the visual acuity objectively is of greatest importance in the detection of malingering, the settlement of court cases in the instance of injury where malingering may be indicated; also in children and illiterates and cases of pathology, as well as amblyopic and squint cases. Here it may serve as a welcome addition to orthoptics.

Although in Germany Ohm's and Guenther's methods and values obtained are recognized in court, much research should be done, and it is towards this end that the author is working on his own apparatus. He hopes to publish the result in another paper and encourages others to join him in this research.—*Author's abstract.*

4. *The Common Sense Horopter.* GORDON L. WALLS, Berkeley, Calif. Am. J. Optom. & Arch. Am. Acad. Optom. 29:460-77, September 1952.

The various elements of space perception are reviewed in regard to the likelihood of their trainability. Stereo acuity, which is sometimes trained, relates to the *lower stereo threshold.* An unrecognized *upper stereo threshold* also exists: the greatest depth separation of two points compatible with simultaneous haplopia of both. In the determination of the horopter, the only realistic criterion is haplopia. The range of depth over which a moving point is seen haplopically, while some motionless point is bifixated, is sometimes called the region of binocular single vision. Actually it is the horopter, if common sense be used. The horopter,

defined as a surface-locus of haplopic points, is fictitious since corresponding retinal points are fictitious. Panum's areas do not represent errors made by the observer who is determining his horopter, but are biologically real, essential to stereoscopic solidity-perception and to the necessarily unprecise actions of the eye muscles. The true horopter is a solid, whose thickness is governed by the sizes of Panum's areas. It should be possible, in orthoptic cases, to increase the thickness of the horopter (= increase the upper stereo threshold, = increase Panum's areas); and it would be highly desirable to do so.—*Author's abstract.*

5. *The Relationship Between Geometrical Perspective and Stereo Cues.* GLENN A. FRY, Columbus, Ohio. Am. J. Optom. & Arch. Am. Acad. Optom. 29:353–68, July 1952.

The consideration of geometric perspective is limited to the role played by lines parallel to the picture plane and lines converging on a vanishing point.

In a previous paper it has been shown that the following equation can be used to represent the relation between the perceived distance (ρ) and physical distance (x) of an object located on the perpendicular bisector of the base line connecting the centers of the entrance pupils of the two eyes.

$$\frac{1}{\rho} = \frac{1}{x} + k.$$

In this equation k is a constant. When k is different from zero a line parallel to the perpendicular bisector is perceived as slanted but straight. In this way a conflict between stereo and geometric perspective cues is avoided.

The principles formulated apply to the practical problems of space perception with binoculars, stereo range finders and stereographs, the design of compressed three dimensional models, use of telephoto lenses and wide angle lenses in photography, and painting.—*Author's abstract.*

6. *Interpretation of Illumination Data.* MILES A. TINKER, Minneapolis, Minn. Am. J. Optom. & Arch. Am. Acad. Optom. 29:293–300, June 1952.

To a large degree interpretations of relations between light and vision are based upon examination of the trends in the curves representing basic data from visual acuity, speed of vision, and rate of performance studies. Since recommended practice in lighting is based upon these interpretations, it seems desirable to examine their validity. The practice of plotting the relation between visual acuity and illumination level on a logarithmic scale yields an apparently large increase in acuity at the higher levels of illumination where actually the differences are minute and probably of questionable significance in practical seeing situations. In one study, the addition of 1067 foot lamberts yielded only an increase of 0.11 points in visual acuity; in another, addition of 384 foot candles yielded an increase of only .005 in performance score. And yet the graphs revealed what appeared to be big gains. In the few studies where there has been statistical evaluation of

gains with increase in illumination intensity, no *statistically significant* gains have been discovered for the higher illumination intensities (50 foot candles or more). It would seem reasonable to specify that statistically significant gains in performance be established prior to employing such data as bases for recommendations in practical seeing situations.—*Author's abstract.*

7. *Visual Functions as Indices of Physiological Changes in the Acid-Base Balance of the Blood.* MATHEW ALPERN, Columbus, Ohio, AND CHARLES D. HENDLEY, New Orleans, La. Am. J. Optom. & Arch. Am. Acad. Optom. 29:301–14, June 1952.

Respiratory acidosis is associated with a rise in the absolute visual threshold and a fall in the critical flicker frequency, while respiratory alkalosis is associated with a fall in the absolute visual threshold and a rise in the critical flicker frequency. Changes in CO_2 tension affect both rod and cone vision. Comparable effects do not occur with metabolic alkalosis and acidosis. Theoretical analysis demonstrates that such effects are explicable at the level of the photoreceptor.—*Author's abstract.*

8. *Magnifying Effects of Spectacle Lenses.* BERNARD ROSETT, New York, N. Y. Am. J. Optom. & Arch. Am. Acad. Optom. 29:341–46, July 1952.

This paper deals with the elementary optics involved in problems of unequal magnification or induced aniseikonia. The magnifying power of an optical instrument is defined simply and unambiguously in terms of the ratio of the apparent angular size of the image to that of the object as seen by the unaided eye. From the definition, an exact formula is derived for the case of a correction lens and put into a form employing the tangible optical constants that can easily be measured in practical spectacle work, namely index of refraction of the spectacle lens, center thickness, front surface power, back vertex power, and fitting distance. A further algebraic approximation leads to a simpler, more convenient equation for the percentage magnification in terms of four easily manipulated variables. This expression is further developed and illustrated by means of three typical problems whose numerical solutions indicate the oftimes considerable effects produced by seemingly minor changes in spectacle lens construction and fitting.—*Author's abstract.*

OCULAR MOVEMENTS AND MOTOR ANOMALIES, NYSTAGMUS, READING DISABILITY

9. *Clinical Pointers in Strabismus Orthoptics.* WILLIAM SMITH, Boston, Mass. Am. J. Optom. & Arch. Am. Acad. Optom. 29:389–402, August 1952.

A dissertation is presented on four basic steps which the author considers most important in the treatment of strabismus by orthoptics.

Before launching into a description of these steps he discusses briefly the im-

portance of a comprehensive step-by-step outline of treatment procedure in each case, based on the data obtained from refractive and orthoptic tests. Emphasis is placed on the qualitative performance of the various ocular movements, posture, head and face carriage. According to the author, estimating quality of ocular muscle action is more important than determining degree of deviation. Here inspection and observation are important factors.

Re-education is the basis for the general orthoptic procedure. However, in this presentation, special emphasis is placed on four basic and primary steps, which the author considers as the foundation upon which the remainder of the procedure rests. The basic steps are:

1. Establishment or reconditioning of the visual reflex arc, by stimulating the squinting eye or both eyes (depending on the type of deviation) with light. This is referred to as "retinal stimulation."

2. Complete elimination of central (macular-foveal) suppression to establish a path of bifoveal conduction. Retinal stimulation is an excellent medium here.

3. Establishment of spatial localization and foveal (directional) fixation by means of the author's projection training plates and by tracing. Here postural alignment is constantly maintained. Bifoveal correspondence and bimacular fusion cannot be attained unless all this is done.

4. Development of visual acuity and visual perception, generally, to the highest level possible. For this treatment, Snellen and specially constructed charts and targets are used. Persistently efficient function of monocular and binocular visual perception is necessary for the continued performance and retention of normal binocularity in rehabilitated cases.

The background for this presentation is clinical experience of many years' standing.—*Author's abstract.*

10. *The Effect of Aniseikonia on the Amplitude of Vertical Divergence.* V. J. ELLERBROCK, Columbus, Ohio. Am. J. Optom. & Arch. Am. Acad. Optom. 29:403–15, August 1952.

It has been known for some time that aniseikonia impairs fusional movements. However, the extent of the impairment especially with stimuli consisting of complex patterns of small detail was not determined. In order to investigate this effect, a series of experiments were performed; this paper is a report of the results of the experiments.

The essential components of the apparatus were a forehead rest to which was mounted two half-silvered mirrors and a rotary prism, a projector and screen, and two points of light sources. The light sources were used to subjectively measure the position of the eyes in response to any given test situation. Three different targets of four different sizes were used. The targets were white print on a black background, black print on a white background, and uniform white areas with borders.

It was found that the greatest effect of aniseikonia is with the largest of the four patterns for all three types. Roughly for the largest target, the amplitude is

reduced to ½ of its original value for an aniseikonia of 10 per cent. For the smallest target the amplitude is reduced only about 1/10th.—*Author's abstract*

ANOMALIES OF REFRACTION AND ACCOMMODATION, CONTACT LENSES

11. *The Changes in Refraction Between the Ages of 5 and 14—Theoretical and Practical Considerations.* MONROE J. HIRSCH, Los Angeles, Calif. Am. J. Optom. & Arch. Am. Acad. Optom. 29:445–59, September 1952.

A retinoscopic determination of refractive state of the eyes of 9,552 randomly selected school children was made, and the results were analyzed statistically. The results are presented in such fashion as to enable the clinician to predict the course which an individual child's refraction will follow. The mean refraction decreases approximately linearly and at a rate almost double that of the median refraction, indicating that most individuals change little during this period while a few individuals become markedly more myopic. Calculations show that between 75 and 85 per cent of the children change less than half a diopter during the nine year period investigated, while about 5 per cent become more than one (and often as much as four) diopters more myopic. Thus the concept that all children become more myopic with growth is erroneous, most children maintaining an almost constant refractive state and a few changing markedly. The most marked increase in the percentage of myopes occurs at about the time of puberty, and like puberty occurs about two years earlier for girls than for boys. The clear difference between the mean and median refraction leads to the suggestion that refractive data no longer be analyzed (as it has in the past) with respect to the mean refraction. The raw and refined data are presented in 5 tables and 3 graphs.—*Author's abstract.*

12. *Pinhole Contact Lenses.* EUGENE FREEMAN, Chicago, Ill. Am. J. Optom. & Arch. Am. Acad. Optom. 29:347–52, July 1952.

The paper reports an innovation in contact lens technics and design, namely, the application and incorporation of pinhole optics into contact lens design. The author proposes the term *pinhole contact lens* to be used as the standard designation for a prescription contact lens into which a small artificial fixed pupil and a colored simulated iris have been incorporated. No designation now in use suitably describes the new type of lens.

The author reports a case in which pinhole contact lenses were designed and prescribed for a patient suffering from keratoconus, vitreous opacities, and presbyopia. Conventional molded contact lenses afforded 20/40 at far, and 20/40 at near when combined with +4.00 spectacles. The possibility of improving the visual acuity by a more favorable centration of the contact lens optics was eliminated by remaking the conventional contact lenses with the utmost care and precision in the placement of the optics that the facilities of the author's own manufacturing laboratory could provide.

The pinhole contact lens, with a 2 mm. pupil, gave the patient 20/20 at far and near with no supplementary spectacles; and with a +2.50 reading correction, the near V.A. was 20/15.

The success of the case offers empirical confirmation of the predictions previously made by others that if the pinhole principle could be incorporated into contact lenses, they could be worn by presbyopes without supplementary spectacles. It also demonstrates that pinhole contact lenses may be used to sharpen acuity where conventional contact lenses may fall short of furnishing the required minimum.

A technical innovation in the design of the lenses, invented by the author, solves the problem of optimum placement of the center of the artificial pupil. This device, termed a *contact lens pinhole disc*, is a thin shell of black plastic about the size of the corneal section of a contact lens, with about a 7½ mm. inside radius of curvature, and which is pierced at the center with a circular aperture of 1, 2, or 3 mm. This is freely movable over the front surface of a conventional contact lens worn by the patient. After it has been positioned most favorably, its placement can be marked with a wax pencil on the lens which the patient is wearing, thus indicating precisely to the laboratory where the pupil should be centered.—*Author's abstract.*

CRYSTALLINE LENS

13. *Intra-Ocular Acrylic Lenses, a Recent Development in the Surgery of Cataract.* HAROLD RIDLEY, London, England. Brit. J. Ophth. *36*:113-22, March 1952.

In 27 cataract operations at various London hospitals, an artificial lens was inserted into the eye at the close of the operation, or at a secondary operation in 3 cases. The artificial lens employed is made of fully polymerized polymethyl methacryalate (Transpex I). According to present specifications, it is 8.35 mm. in diameter and 2.40 mm. thick; the refractive power of this lens in a medium with the refractive index of the aqueous fluid is — 24D. Before the lens is polished, a groove is cut on the circumference so that it can be grasped by forceps; a special forceps has been designed for use with the lens. Extracapsular extraction was done in most of the cases in which this artificial lens was employed, but in 2 cases an intracapsular operation was done successfully. If the posterior capsule has been completely cleared at the time of the cataract operation, the acrylic lens is inserted when the extraction is completed before the corneo-scleral sutures are tied. In the 3 cases in which this was not possible, the eye was closed, and the acrylic lens was inserted at a secondary operation several weeks later. In the first 2 cases in which this operation was done, the acrylic lens was too thick (not cut according to present specifications), but these patients have moderate visual acuity, but only with the use of cataract spectacles. In the other 25 patients, only one patient has any trouble with the lens and unsatisfactory vision; in this case the operative wound was slow to heal. In the other 24 cases, the lens is in good position, and there is no inflammation or increased intraocular tension. Vision is better than after the usual type of cataract operation and without the use of cataract spectacles.

In some cases the lens is partially obscured by exudate and iris pigment, but in all these cases, this condition is improving, and it is possible that the lens will become entirely clear in these cases with further improvement in vision. 3 references. 1 table. 5 figures.

14. *Surgery of Dislocated Lenses in Children.* OTIS R. WOLFE, RUSSELL M. WOLFE, Marshalltown, Iowa, AND EDMUND B. SPAETH, Philadelphia, Pa. J. Internat. Coll. Surgeons *17*:201-07, February 1952.

In the American Journal of Ophthalmology, September 1943, the authors described a six year old blind boy with dislocated lens which was operated by the authors' technic. This boy was presented before a clinical session at the Chicago Eye, Ear, Nose and Throat Hospital of the 16th Assembly of the International College of Surgeons at Chicago in September, 1951.

Nine years had elapsed since the surgery of the first case, during which time this boy had been an honor student in high school, and had engaged in the usual youth activities. Wearing contact lenses and regular cataract glasses he had 20/20 and J1 vision. A second blind boy also had 20/20 and J1 vision in the one operated eye.

A brief description of the technic employed in these two cases is as follows: the lens is impaled on the point of a cycle-shaped knife from behind at the equator, lifted out of the vitreous, and held stationary. A second surgeon pierces the lens with a straight knife needle, and a discission is then effected by cross cutting. This can be repeated until absorption clears the media (five times in one case).

Eighteen cases were operated by the authors and one by another surgeon using this technic. Only one of the authors' cases was unsuccessful in one eye, but 20/20 vision was obtained in the other eye.

Doctor Edmund B. Spaeth of Philadelphia examined the boys; his discussion is published with the paper. Doctor Spaeth states that surgery in children other than iridectomy had previously been unsatisfactory due to vitreous damage causing iridocyclitis, retinal separation, and ultimate degeneration of the globe. Doctor Spaeth also states that the Wolfe technic deserves serious consideration for patients who can be operated during childhood. 7 figures.

15. *Epithelial Downgrowths in the Anterior Chamber.* SAMUEL GARTNER, New York, N. Y. Eye, Ear, Nose & Throat Monthly *31*:413-22, August 1952.

Epithelial downgrowth into the anterior chamber is one of the most dreaded complications following cataract surgery. It should be suspected when cataract surgery is followed by persistent iridocyclitis and intractable glaucoma.

In most of the patients there has been a long delay in the reformation of the anterior chamber after the cataract extraction. This is probably attributable to poor apposition of the edges of the wound, which leaves a hiatus through which aqueous escapes. Surface epithelium could grow down into the interior of the eye through this opening.

Another possibility is the infolding of a flap of conjunctiva into the wound.

Suture tracks have long been known to become epithelialized after a period of time.

After the epithelial tissue gains access to the anterior chamber, it usually grows as a flat sheet over the cornea and iris, or more rarely, it forms a cyst in the anterior chamber.

The epithelial growth causes a persistent irritability to the eye, often an iridocyclitis. Finally, an intractable glaucoma develops that may defy treatment.

While a few successes have been reported, all forms of therapy have been very disappointing. Ultimately, resort has to be had to enucleation. Prevention by careful cataract surgery is the best method now available.

MISCELLANEOUS

16. *On the Pathogenesis of Incontinentia Pigmenti. With Observations on an Associated Eye Disturbance Resembling Retrolental Fibroplasia.* G. H. FINDLAY, Pretoria, South Africa. Brit. J. Dermat. *64*:141–46, April 1952.

Eye lesions appear to be a frequent associated finding in incontinentia pigmenti. From a study of the early phase, it was found that the fundus picture was similar to that of retrolental fibroplasia. The main differences were: the patient studied was born at term weighing 2.6 Kg., the eye appeared to be blind from the start, the abnormality was unilateral, and a hereditary factor was present—the mother also being blind in the eye of the same side and having a fundus picture suggesting ablatio falciformis.

The skin changes are regarded as a phase of a systematized naevoid disturbance comprehending systematized ephelis, band-like scleroderma, naevus unius lateris and incontinentia pigmenti.

Cortisone did not arrest the eye changes. 17 references. 1 figure.—*Author's abstract.*

17. *Enucleation Implant.* C. H. ALBAUGH, Los Angeles, Calif. J. Internat. Coll. Surgeons *17*:195–200, February 1952.

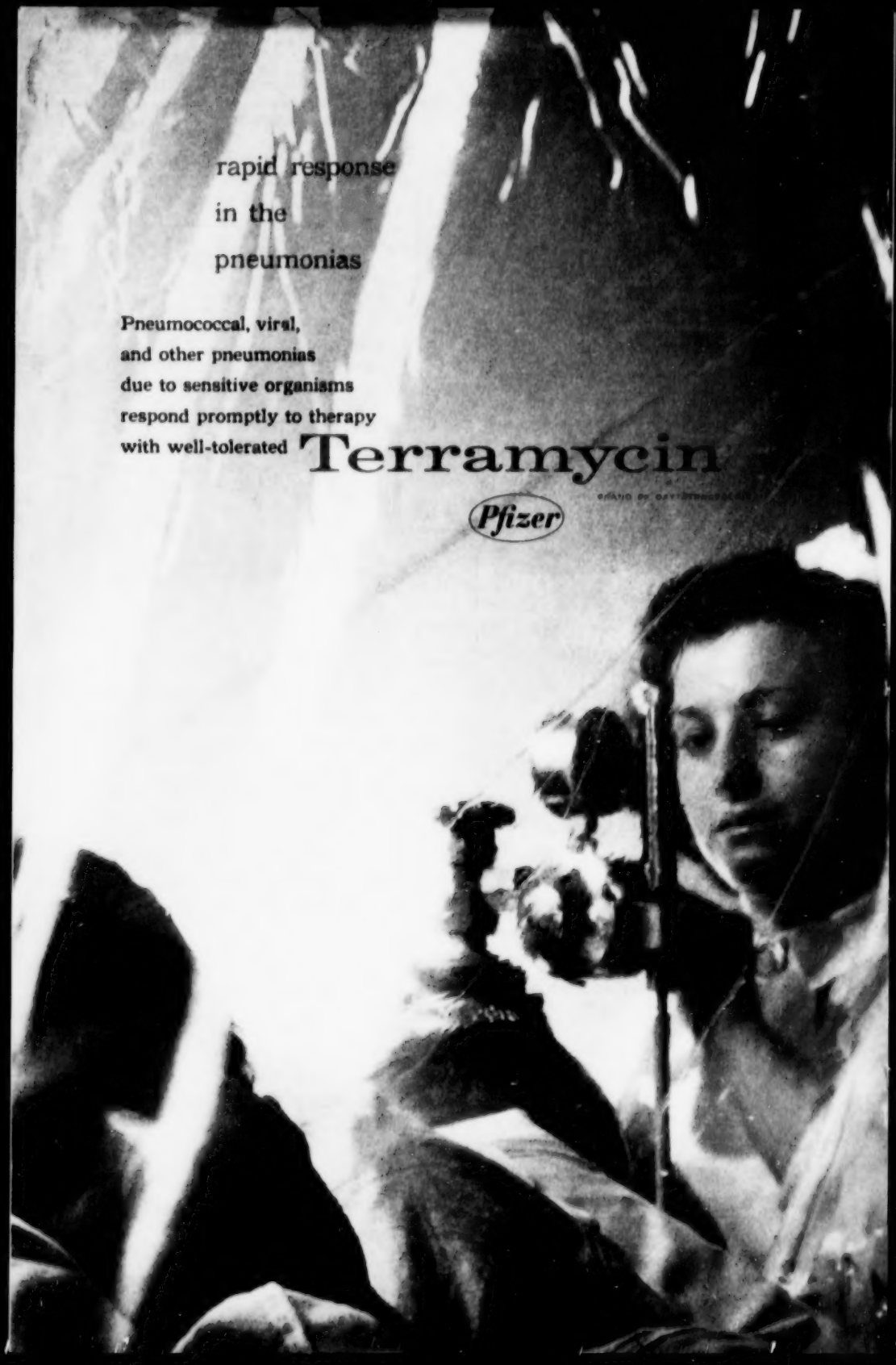
The author presents an improved type of exteriorized enucleation implant. It embodies the following features: lightness of weight; durability; adequacy of circulation in extraocular muscles, with protection against pressure necrosis or atrophy at point of attachment; protection of the conjunctiva from pressure contact with the prosthesis; maintenance of full depth of cul de sac; positive control between implant and prosthesis, with provision for easy automatic disengagement under strain or for sanitary purposes; satisfactory extent of motion of the prosthesis and absence of lag in initiation of motion or fine movements; division of weight load between the extraocular muscles and the lower lid for prevention of ectropion or sagging; maintenance of orbital mass; simplicity and economy in the fitting and adapting of a prosthetic eye. 4 references.—*Author's abstract.*

If you think of it tonight, just look around your own living room. You'll be amazed to note how many "arm's length" jobs there are! Yet many bifocal wearers are receiving only *two-thirds* of the help they need. Are they "really living?"

On the other hand, for presbyopes fitted with Univis Continuous Vision Lenses, the problem doesn't even exist. For the lady of the house who does the work in the living room, and for the breadwinner who relaxes there, visual requirements are met comfortably and naturally with Univis CVs, thanks to the prescribing doctor or dispenser. More than a million people enjoy comfortable, full-field vision with the lenses now known as CVs. The Univis CVs you prescribe are insured and guaranteed through your Univis laboratory.

univis THE UNIVIS LENS COMPANY • Dayton 1, Ohio

UNIVIS CVs FOR ALL PRESBYOPIC NEEDS


rapid response
in the
pneumonias
Pneumococcal, viral,
and other pneumonias
due to sensitive organisms
respond promptly to therapy
with well-tolerated Terramycin
Pfizer